Bank of Russia
The Central Bank of the Russian Federation

No. 1
Q4 2017 – Q1 2018

Information and Analytical Review

FINANCIAL STABILITY REVIEW

Moscow

All statistical data and calculations in this review are provided as of 1 April 2018.

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SUMMARY

1. Risks of the global economy and global financial markets

In Q4 2017 – Q1 2018, interest rates in the global financial markets showed an upward trend, at the end of April – May 2018, the perception of risks of emerging market economies (EMEs) worsened. Economic growth in the leading countries has become stable, estimates of the growth prospects of global GDP have improved, which contributed to the growth of interest rates in the global markets. At the same time, against the background of expectations of accelerated increase in key rates of leading central banks, asset sales began in some EMEs. The most vulnerable countries were those with accumulated structural imbalances, in particular those with significant current account deficit. Negative trends in some countries have had an adverse impact on the perception of EME risks in general. However, in Russia, financial market indicators remain stable, despite the surge in volatility in the markets after the introduction of sanctions by the US against certain Russian individuals and entities and the aggravation of tensions around Syria in April 2018. The interest of international investors in Russian assets is maintained – Russia's sovereign CDS spread remains at the level comparable with other EMEs (128 b.p. on 25 May 2018). For Russia, a positive factor has been the increase in oil prices. The restoration of balance in the global oil market is facilitated by compliance with OPEC+ agreement to reduce oil production along with increased demand. A significant factor determining the growth in oil prices in May 2018 was the US withdrawal from the agreement on Iran's nuclear program (crude oil Brent price rose to 76 US dollars per barrel as of 25 May 2018).

The trigger of heightened volatility in global markets may be stronger tightening of monetary policy by leading central banks. Risks can arise in case of faster and more substantial magnitude of the US Federal funds key rate increase. Negative effects can materialize through various channels, primarily due to the increase in the cost of dollar borrowings, which will lead to an increase in debt servicing costs in national currencies. Taking this into account, the continued accumulation of debt may have significant negative consequences in future, especially in EMEs. According to the BIS, the total debt of non-financial companies in EMEs since the beginning of 2016 increased by 5 p.p., to 104% of GDP (as of 30 September 2017), despite the decrease in leverage in some countries, including Russia (by 8 p. p., to 50% of GDP). In many developed and developing economies the debt burden of households has also increased (from the beginning of 2016 by 3 and 7 p.p. to 76% and 39% of GDP respectively). If rates rise, the high debt burden may have a negative impact on the quality of bank assets and capital adequacy ratios. Risk aversion to individual countries may affect other countries that may face capital outflows and increased credit spreads. Deterioration in FX liquidity may also have a negative impact, while the effect may be enhanced by the repatriation of offshore profits by the US corporations. If these risks materialize, Russia may also face negative effects. The risk of lower oil prices which may result from potential significant increase in oil production in the US, remains a significant factor for the Russian market.

Future aggravation of risks associated with the escalation of geopolitical tensions may occur, although the probability of their materialization has decreased slightly (protectionist policy of the US administration, the aggravation of the conflict in the Middle East). In the worst scenario, the unfolding of the trade conflict between the US and China and the US and the EU, the introduction of protectionist barriers by other countries may be accompanied by an increase in market volatility, a deeper and longer fall in stock markets, an aggravation of currency wars, and a reduction in the volume of world trade. As a result, the risks of global economic growth slowdown and oil price decline may resume.

2. Risks of the Russian financial market under sanctions

A sharp surge in volatility in the Russian financial market in April 2018 was caused by the introduction of new sanctions by the US. In April 2018, the US applied tough sanctions – blocking sanctions of SDN (Specially Designed Nationals) for the first time against a number of large public companies with a substantial share of export products. As a result, these institutions are prohibited to export products to the US, make other commercial transactions with the US residents, to make payments (including servicing their obligations) in US dollars. The restriction also applies to circulation of their securities. Another risk is secondary sanctions, within the framework of which any legal and natural persons acting in the interests of organisations from the sanctions list can become the object of the sanctions policy of the US. The situation was aggravated in April by the further escalation of the situation in Syria.

Despite the sharp increase in market volatility, the reaction of the participants was short-term, the Russian financial market demonstrated its maturity. The impact of sanctions was expressed in the weakening of the ruble and the decline in the value of securities mainly due to sales by non-resident investors. The longest and largest volume of sales- in the amount of about 100 billion rubles - occurred in the OFZ market. In the first days, significant sales of non-residents were observed in the stock market. As a result, the stock index of the Moscow Exchange on the 9th of April fell by 8.3%, the OFZ yield curve moved up by 50 – 60 b. p. In the next two weeks, the market largely won back losses: the stock index of the Moscow Exchange rose by 6.8%, the OFZ yield curve decreased by 30 b. p. Sustainability was achieved mainly due to stable macroeconomic situation (recovery of economic growth, low inflation, reduction of the budget deficit, low debt burden of the budget) and the strength of the financial sector.

In the foreign exchange market the level of liquidity remained sufficient even in the conditions of large-scale purchases of foreign currency by non-residents. In the situation of increased demand for foreign currency from non-residents, the Russian foreign exchange market operated in a stable mode and maintained continuous foreign exchange rate pricing, since there was sufficient supply of foreign currency. Foreign currency supply was provided mainly by Russian banks serving the largest exporters. At the same time, the population did not show significant interest in buying foreign currency, but rather acted as a net seller in the specified period.

The financial sector coped with the shock, however, the Bank of Russia implemented mitigating measures to support lending to the Russian economy. Potential financial sector losses from sanctions are limited and can be absorbed by the capital buffer of Russian financial institutions. Nevertheless, in order to mitigate the negative impact of sanctions and to support lending to the Russian economy, the Bank of Russia issued letter No. IN-016-41/22 on 23 April 2018 to introduce measures valid until the end of 2018 that allow credit institutions to make decisions on non-worsening the assessment of the financial position of the borrower (counterparty), the quality of debt service (for example, in case of loan restructuring and occurrence of overdue payments), the quality of loans, other assets, contingent liabilities of a credit nature, the quality of security category. These decisions will provide temporary allowance to credit institutions not to increase loss provisions on loans, other assets and contingent credit obligations compared to the last reporting date prior to the date of sanctions.

3. Systemic risks of the banking sector

The quality of loan portfolios to the corporate sector is improving, with the exception of banks undergoing the recovery process. The growth in the share of loans of quality category IV-V (from 0.5% on 1 October 2017, to 12.2% as of 1 April 2018) was due to an increase in the volume of bad debts in banks under resolution. With the exception of these banks, the data is positive: the share of loans of quality category IV-V decreases (by 0.7 percentage points, to 7.9% as of 1 April 2018). This indicates that amidst economic recovery, credit risks are decreasing, and deterioration of portfolios of individual banks stems from the legacy of accumulated risks.

Consumer loans are growing at a rapid pace amidst the decline in the effective interest rate and the cost of risk. The unsecured consumer lending market annual growth rates are accelerating

significantly (14% as of 1 April 2018). This growth is accompanied by a decrease of the effective interest rate for all types of loans. At the same time, the share of bad loans decreased by 1.7 percentage points, to 12.2% as of 1 April 2018, which has been achieved by replacing loans of old generations with new ones with a low level of risk. Against the background of lower interest rates, mortgage lending is accelerating rapidly (annual growth rates as of 1 April 2018 reached 19%).

The significance of interest rate risk increases. The Bank of Russia gradual transition to the neutral monetary policy alongside the slowdown in the growth of consumer prices create conditions for lower interest rates. Net interest income of banks is quite stable, but there is a trend towards the reduction of the margin on new loans and deposits. The lower interest rate margin is offset by a decrease in the cost of risk on new loans, however, in the long run, banks may become less resilient in the event of increased credit risk. Among other risk factors there are a high share of short-term liabilities and the optionality set in loan agreements, which is reflected in refinancing loans at lower rates. The estimation as of February 1, 2018 shows that in the preceding year interest rates declined for more than a half of loans to non-financial organisations issued at a fixed rate. The growing share of refinancing is also typical for mortgage loans. It is possible to recommend banks to improve approaches to measuring interest rate risk, including through stress testing, and take measures to limit the risk — increase the share of long-term liabilities, encourage the transition of non-financial companies to floating rates on loans and hedge the risks as the interest rate derivatives market develops.

The liquidity risks of the banking sector are generally low, but the situation varies across banks. Against the background of the growth of the structural liquidity surplus, in Q4 2017 — Q1 2018 the liquidity situation in the banking sector generally improved. However, some credit institutions continued to experience the need to include irrevocable credit lines (ICL) in the calculation of the liquidity coverage ratio. One of the reasons for this is an increase in the potential capital outflow, due to the growing share of short-term liabilities in the total amount of banks' liabilities. In addition, due to the reduced maturity of liabilities the values of the N2 and N3 liquidity ratios of systemically important banks (SIBs) are decreasing compared to the beginning of Q4 2017 (but still are significantly higher than the minimum level). In other banks, as a result of a reduction in the potential capital outflow and the simultaneous growth of high-quality liquid assets, the liquidity coverage ratio for the corresponding period increased from 67.7% to 99.1%.

4. Systemic risks of non-credit financial organisations

Insurance companies are becoming actively involved in life insurance, and the segment of compulsory motor third party liabilities insurance (OSAGO) remains problematic. The risks of the insurance market in 2017 continued to concentrate in the OSAGO segment. At the same time, the results for other types of insurance, including motor hull and property insurance, compensated for losses in the OSAGO segment in the total results of insurance activities. Life insurance continued to develop actively due to investment products. The key issue was to protect consumers from misleading information about the characteristics of the product, including the cases when services are provided through intermediaries. In accordance with the Bank of Russia requirements, the All-Russian Insurance Association initiated the development of a basic standard for the protection of the rights and interests of recipients of financial services. Insurers have adapted to work in conditions of mandatory cession to the Russian National Reinsurance Company.

In 2017 profitability level of non-government pension funds (NPFs) declined, which was due to the overall conditions in the financial market. The credit quality of the aggregate pension savings portfolio improves due to the growth of investments in government securities. In order to enhance the management of pension savings, as well as to establish the conditions for extending the horizon of the investment of NPFs, a law on the permanent part of remuneration of NPFs and fiduciary responsibility to insured persons was adopted.

5. Bank of Russia macroprudential policy

In the context of uneven growth in lending activity, the Bank of Russia took measures aimed at segments with increased risk. The credit activity in the economy as a whole, determined by the «credit gap» indicator, is below its long-term trend, which, according to the methodology of the Basel Committee on Banking Supervision (BCBS), indicates that there is no need to implement a non-zero countercyclical capital buffer. The heterogeneous nature of the banks' credit activity is another argument proving that the implementation of the countercyclical capital buffer would be counterproductive: the acceleration in the growth rate of consumer lending (including mortgages) — 15.7% as of 1 April 2018 — is taking place against the background of restrained lending dynamics in the corporate sector (4.8 % as of 1 April 2018). In these conditions, the Bank of Russia applied measures in respect of rapidly growing segments of the market. In particular, the scale of risk weights for unsecured consumer loans was revised (from 1 May 2018, risk weights for consumer loans with the effective interest rate from 15% to 25% were increased). Maintaining the same risk weights depending on the effective interest rate in the context of lower market rates would mean weakening of regulatory requirements. In mortgage housing loans segment, in order to discourage the active issuance of loans by banks with low down payment (the share of issued loans with LTV more than 80% in Q1 2017 was 14.0%, in Q4 2017 — 42.4%) risk weights for mortgage loans nominated in rubles were increased. These changes apply to loans issued after 1 January 2018.

A survey of credit institutions shows that the share of such loans in Q1 2018 remained significant — 44%. This may be due to the fact that part of the loans provided in Q1 2018 was approved by the banks at the end of 2017 — before the introduction of increased risk factors. Therefore, the effectiveness of introduced measures can be assessed in Q2 2018.

The Bank of Russia continues to take measures in order to reduce dollarization of the banking sector. Recently, the pace of dollarization decline of bank assets decelerated significantly: as of 1 April 2018, the annual growth rate of the loan portfolio to companies in foreign currency (excluding currency revaluation) amounted to 1.4%. The growth of debt is mainly related to the increase in foreign currency lending to export-oriented industries (in separate segments — by 1.4 times for 12 months as of 1 April 2018). In the weakest sectors (construction and real estate transactions), against which the Bank of Russia introduced increased risk weights since 1 May 2016, in order to calculate capital adequacy, on the contrary, there is a 17% decrease in FX loans. The rapid growth of foreign currency debt, including among exporters, represents a potential risk to financial stability. During the commodity prices' growth, exporters may accumulate excessive levels of foreign currency debt, which in the descending phase of the commodity cycle increases the exposure of the financial system to capital outflow, raises volatility of the exchange rate and leads to a deeper economic decline. In the coming years, such risks may increase in EMEs, as leading central banks exit from expansionary policies and monetary conditions tighten in global markets. The situation in Russian banks is complicated by the fact that access to external borrowing is limited amidst the restrictions on the part of individual countries.

Taking into account the resumption of the trend towards the growth of foreign currency lending and in order to limit the mentioned systemic risks, the Bank of Russia decided to impose additional measures to limit FX lending. For the real estate loans the capital risk weight will be increased from 130% to 150%, for the loans to exporters — from 100% to 110%, for other liabilities nominated in foreign currency — from 110% to 130%. These ratios will be applied to newly issued loans after 1 July 2018, which will allow to distribute the pressure on the banks' capital in time. In future, in order to reduce dollarization, the risk weights can be raised again.

The Bank of Russia is improving its macroprudential policy. In March 2018, amendments to Federal Law No. 86-FZ, dated 10 July 2002, «On the Central Bank of the Russian Federation (Bank of Russia)» came into effect, which authorized the Bank of Russia to promptly carry out macroprudential policy. In order to implement these amendments, on April 13, a draft instruction «On add-ins to risk weights for certain types of assets and on characteristics of asset classes to which add-ins to risk weights are applied» was published for consultations. The regulation determines the list of assets in respect to which it

is possible to implement macroprudential buffers and the procedure for their implementation. The Board of Directors of the Bank of Russia will take decisions on the buffers' values and corresponding characteristics of assets. One of these characteristics when issuing loans to individuals is the debt burden indicator (the ratio of payment to income, PTI). The Ordinance should enter into force in the second half of 2018, and the calculation of the PTI will be mandatory from 1 January 2019. In 2019, after the calibration of the level of risk depending on PTI, it is planned to shift to the use of this indicator to establish the values of macroprudential buffers for consumer loans. In future, the Bank of Russia plans to make the calculation of PTI mandatory for microfinance organisations and use this indicator in the macroprudential regulation of banks and microfinance organisations.

RISK MAP

Figure 1

Russia financial market risk map

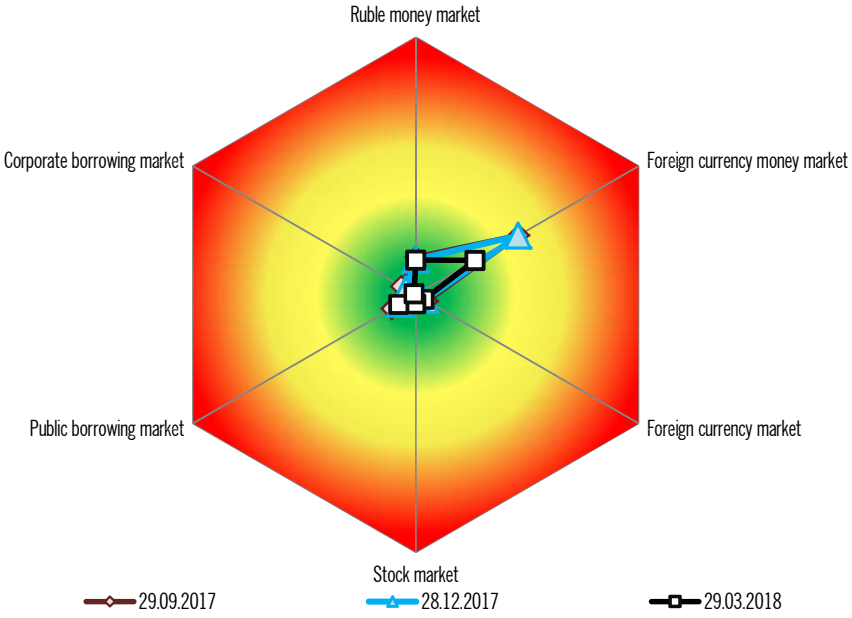


Figure 2

Banking sector risk map

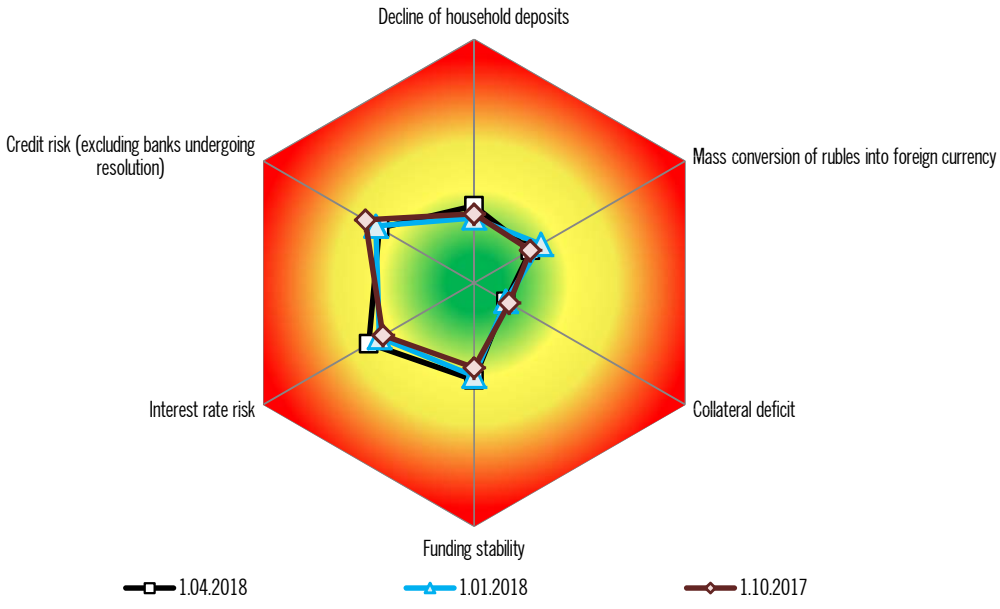
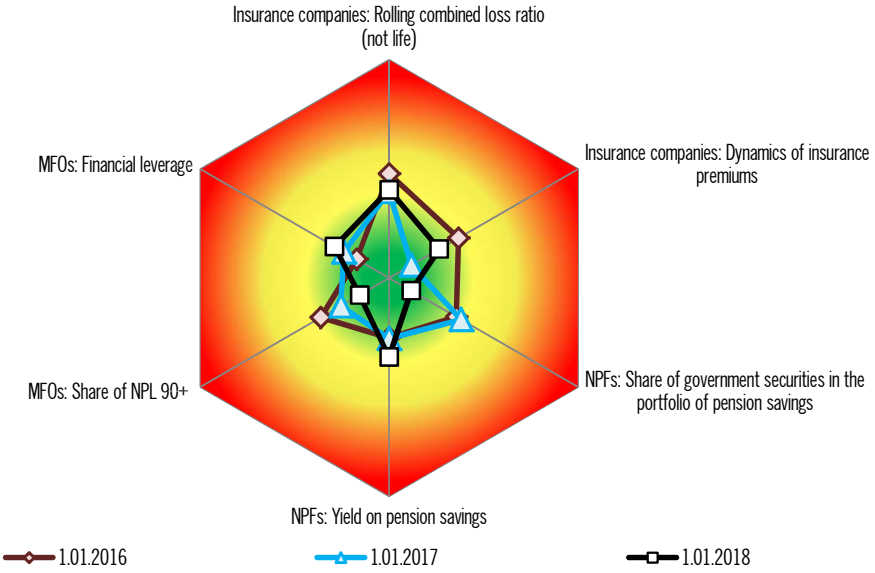


Figure 3

Non-bank financial institutions risk map



1. RISKS OF THE GLOBAL ECONOMY AND GLOBAL FINANCIAL MARKETS

In the reporting period, advanced economies (AE) and emerging market economies (EMEs) demonstrated a synchronous economic upswing. The International Monetary Fund (IMF) improved its forecast of global economic growth rates for 2018 and 2019 by 0.2 p.p. to 3.9% (versus 3.7% in 2017). At the same time, in 2018, the GDP growth rates in advanced economies are expected to increase to 2.5% (versus 2.3% in 2017), while developing economies and emerging market economies are expected to demonstrate growth of 4.9% (against 4.7% in 2017) (Table 1). In such conditions, market expectations have changed, anticipating faster normalisation of the monetary policy by leading central banks. Along with the expected accelerated growth of rates early in 2018, there was an increase in the return on US bonds and the volatility of exchange markets, while investors demonstrated a lower appetite for risky assets in emerging market economies. At the same time, oil prices continued to grow given increased global demand for oil and the successful deal for the reduction of oil production by OPEC countries and major producers and aggravated geopolitical tension in April–May 2018.

The situation in the global financial markets in Q4 was generally positive; however, in Q1 2018, market volatility increased substantially due to growing expectations of a more aggressive tightening of monetary policy on the part of the US Federal Reserve. The return on US 10-year treasuries increased by 50 bps in January–February 2018 and reached 2.9%. The publication of a good report on the US employment market for January (noting record growth of salaries by 2.9% per annum since June 2009) triggered a mass withdrawal of funds from the US stock market at the beginning of February. At the beginning of February, the intraday values of the VIX 'fear index' (implied volatility of options on shares included in the S&P 500 index) reached 50%. Then, in early March 2018, the stock markets collapsed again because of apprehensions about the US protectionist policy (introduction of 25% import duties on steel and 10% import duties on aluminium). As a result, the global markets also demonstrated negative trends; however, the decrease in risk appetite was moderate.

Risk appetite decreased substantially among global investors at the end of April–May 2018 due to renewed growth of returns on US treasury bonds (the returns on 10-year treasuries reached 3.1%). Countries with a significant deficit on the current account of the balance of payments (Turkey, Argentina, Indonesia) experienced the greatest pressure (Figure 5). The aggregate index of sovereign CDSs for 10 EMEs grew to 122 bps as of 25 May 2018 (in Q1 2018, the index averaged 96 bps). The weakening of the currencies of individual EMEs against the US dollar was within the range of 2% to 16%. There was a rather significant outflow of capital from local bond markets and a reduction of investments in shares. According to EPFR, from 18 April to 16 May 2018, net capital outflows from funds investing in EME bonds amounted to $5 billion (in Q1 2018, the net inflow was $5.7 billion). Net capital inflow to funds investing in EME shares

Table 1

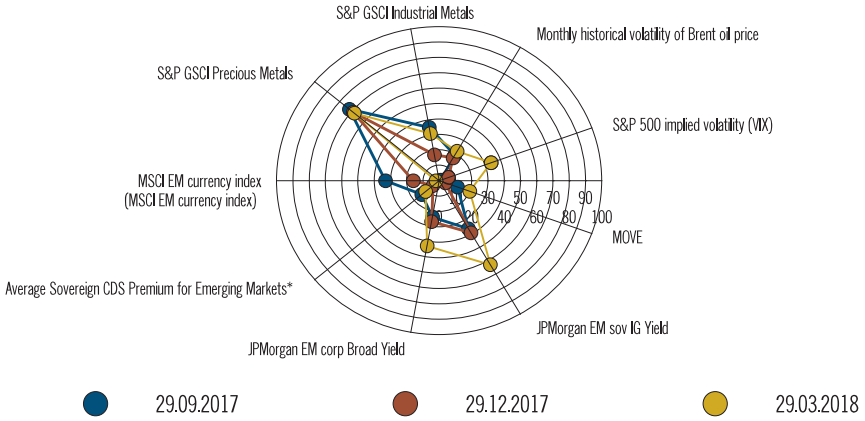
GDP growth rates (%). IMF forecast for April 2018

	GDP growth rates (%)				Deviation from October 2017 forecast (p.p.)	
	2016	2017	Forecast for April 2018		2018	2019
			2018	2019		
World	3.2	3.7	3.9	3.9	0.2	0.2
Developed countries	1.7	2.3	2.5	2.2	0.5	0.4
USA	1.5	2.3	2.9	2.7	0.6	0.8
United Kingdom	1.9	1.7	1.6	1.5	0.1	-0.1
Eurozone	1.8	2.3	2.4	2.0	0.5	0.3
Japan	0.9	1.8	1.2	0.9	0.5	0.1
Emerging markets and developing countries	4.4	4.7	4.9	5.1	0.0	0.1
China	6.7	6.8	6.6	6.4	0.1	0.1
India	7.1	6.7	7.4	7.8	0.0	0.0
Russia	-0.2	1.8	1.7	1.5	0.1	0.0
Brazil	-3.5	1.1	2.3	2.5	0.8	0.5
South Africa	0.3	0.9	1.5	1.7	0.4	0.1
Mexico	2.9	2.0	2.3	3.0	0.4	0.7

Source: International Monetary Fund.

Figure 4

Change in key performance indicators of the global financial market (units)



** Selection of countries: China, Brazil, South Africa, Indonesia, Philippines, Malaysia, Mexico, Peru, Chile, Turkey.*

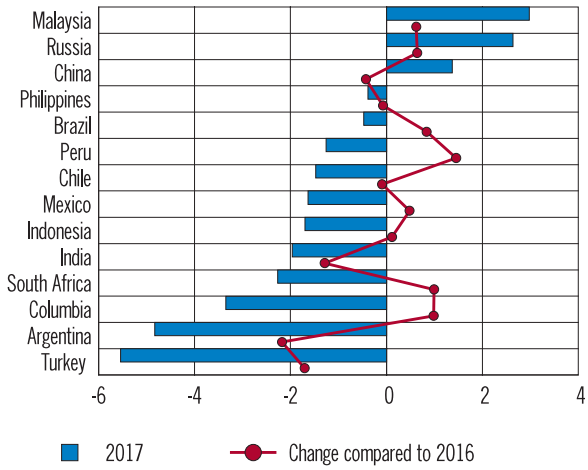
The scale from 0 to 100 reflects lowest and highest values of the indicators over the period from 1.01.2012. to 29.03.2018.

From the center to the periphery – higher volatility of VIX and Brent, lower prices of industrial metals and gold, weakening of the EME currencies, higher yields of government and corporate bonds, higher sovereign CDS premiums..

Source: Bloomberg.

Figure 5

Current external balance (% of GDP)



for the same period amounted to $2.5 billion ($54.3 billion in Q1 2018).

The interest of investors in Russian financial assets persisted despite the sanctions imposed by the United States on individual natural and legal persons and heightened tension regarding Syria (for more details, see Section 2). Volatility on the stock, bond, and exchange markets increased briefly and did not lead to any interruptions in their operations. The premium on Russia's sovereign CDSs is still at a level comparable with other countries having a similar rating (128 bps as of 25 May 2018). The share of investments in Russian government bonds by non-residents remains at a record maximum level (34.5% as of 1 April 2018). The implied volatility of 'at the money' one-month USD/RUB exchange rate options averaged 9.6% in Q1 versus 13.3% as of 25 May 2015 (which is comparable to the average 2017 index of 12%).

The growth in oil prices was a favourable factor for the Russian economy. The average price for Brent crude increased from $55.5 per barrel in September 2017 to $65.4 per barrel in March 2018, or by 17.7%. Support for the increase in oil prices came from the gradually achieved balance between demand and supply on the global oil market, along with a recovery of global demand for oil, and owing to the observance of agreements on a reduction of oil production by OPEC member countries and other major producers. According to the estimates of the International Energy Agency (IEA)[1], at the beginning of 2018, oil reserves in OECD countries exceeded the 5-year average level by only 50 million barrels (a year ago, by 246 million barrels). Another significant factor in the growth of oil prices was a decrease in oil production in Venezuela because of the economic crisis. In May 2018, after the US declared its withdrawal from the Iran nuclear deal, the price of Brent crude rose to $79 per barrel.

[1] *Oil market report of 15 March 2018.*

A change in expectations towards a faster tightening of monetary policy by the leading central banks (the US, Europe, and Japan) given accelerated economic growth may be a key factor in the future growth of volatility on the global financial markets. At its meeting in March 2018, the US Federal Reserve decided to increase the federal funds rate by 25 bps to 1.5%–1.75% per annum. The forecasts regarding the basic rate increased as compared to December 2017. According to median forecasts, in 2019, the rate will be 2.875% per annum (in December, 2.688%) and in 2020, 3.375 (3.063%). At its session in March 2018, the European Central Bank confirmed that the bond redemption programme (reduced to €30 billion a month) would last at least until September 2018, or longer, if necessary. As for the increase in ECB rates, the market predicts an increase in the value of borrowings by mid-2019. The Bank of Japan announced the possibility that it would consider scaling back accommodative measures in the 2019 financial year.

The key sources of potential risk that could worsen market conditions and cause an outflow of capital from developing markets include the following.

1. The Growing Value of Dollar Borrowings against the Backdrop of the Tightening of the US Federal Reserve's Policy

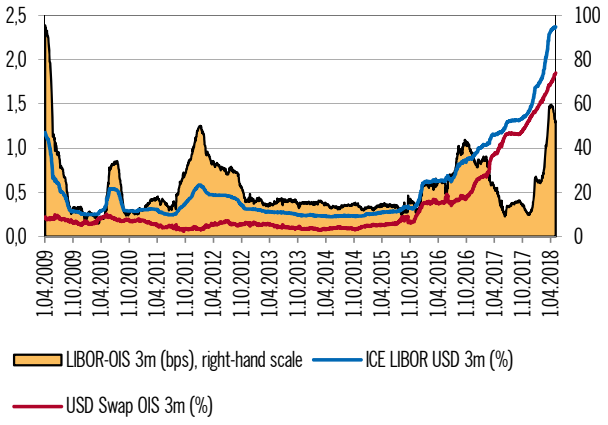
The tightening of the Federal Reserve's policy will result directly in the increased cost of dollar financing on the global markets. The global dollar liquidity shortage may intensify as a result of the growing offerings of US treasuries (to cover the budget deficit) and repatriation of income by American corporations. The growing risks of a dollar liquidity shortage are evidenced by the noticeable expansion of the 3m LIBOR-OIS spread, showing additional costs upon the issue of short-term unsecured loans denominated in US dollars on the London Interbank Market. The indicator exceeded the local maximums of September 2016 and late 2011 – early 2012 (Figure 6). Moreover, volatility surges continue to reoccur on the global cross-currency swaps market (especially in Europe and Japan). At the end of 2017, cross-currency spreads reflecting the premium for dollar liquidity raised by foreign banks on the interbank market grew to record levels for 5–10 years (Figure 7).

The situation with the shortage of dollar liquidity may become worse due to the growing volume of financing in foreign currency. As of 30 September 2017, the global aggregate sovereign and corporate dollar debt (outside the US) has already reached the enormous amount of $11.2 trillion (according to BIS). In EMEs, debt in US dollars was 2.3 times greater than in 2008 and amounted to $3.6 trillion. The conditions of financing in US dollars influenced the perception of risks by EMEs and resulted in increased capital flows and exchange rates.

Russia also demonstrates periods of increased volatility on the exchange market (for example, in December 2017, Figure 7), though the extent of the exposure of the Russian economy to these risks is gradually decreasing as a result of measures the Bank of Russia is taking to reduce the degree of dollarization. In recent years, reserve requirements for exchange obligations have increased, and macroprudential measures have been taken to limit currency lending to non-financial companies (for more details, see Section 5.2). To limit the shortage of currency liquidity and excessive volatility of interest rates, the Bank of Russia uses a standing facility, the currency swap. In January 2018, the Bank of Russia raised the limit for currency swaps from $2 billion to $3 billion.

Figure 6

LIBOR-OIS 3m spread dynamics



Sourse: Bloomberg.

Figure 7

Dynamics of 3-month cross-currency spreads (b.p.)

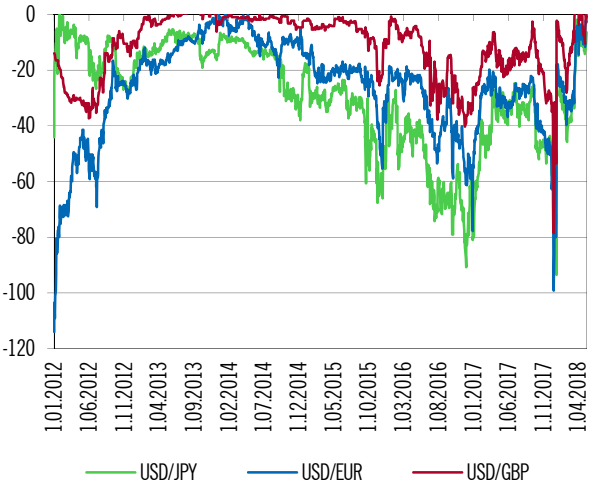
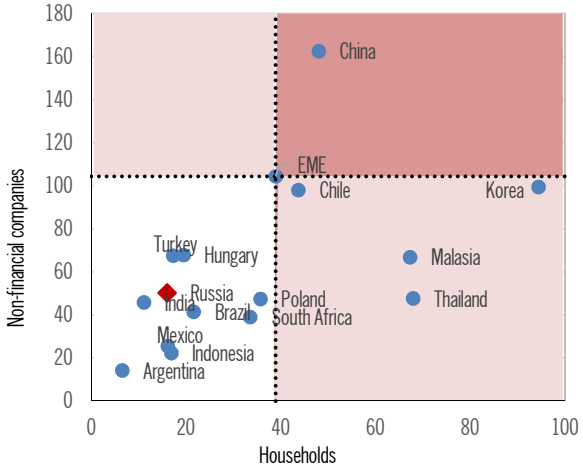


Figure 8

Country breakdown of the debt burden in EMEs (% of GDP)



Sourse: IMB.

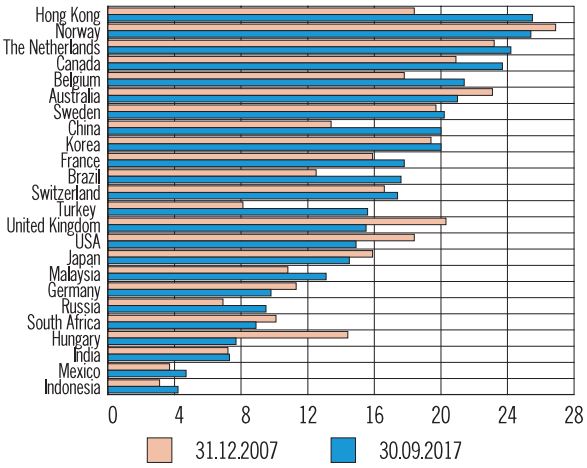
2. The Continuing Growth of Debt Burden Worldwide

The current favourable situation in many key economies and low rates facilitate lending and contribute to the accumulation of risks that may materialise if rates increase. In developed countries, the problem of fiscal sustainability may intensify in the next two years, as many advanced economies will have to refinance more significant volumes of sovereign debt in the case of a budget deficit. Sovereign debt will increase further in the US as well, on the backdrop of the tax reform, which will put additional pressure on rates. The debt burden of non-financial companies in EMEs continues to grow, though individual countries demonstrate a decrease in leverage (Brazil, Mexico, Russia, Korea) (Figure 8). The debt loads of households in emerging market economies are generally lower than in advanced economies; however, China, for example, shows significant growth of this indicator (50% of GDP).

The high debt load of non-financial companies and households in less favourable conditions may have an adverse effect on the quality of bank assets and capital adequacy indicators. The risk that high debt burden may make the financial system more vulnerable is higher in individual jurisdictions where the debt service ratio (DSR) calculated in relation to income level has already reached historical maximums (Figure 9) and will continue growing as the rates are further raised. According to BIS, in

Figure 9

Debt service coverage ratio for companies and households (%)



Bank for International Settlements.

Russia, this indicator for non-financial companies and households is less than 10% and is at one of the lowest levels compared to other countries.

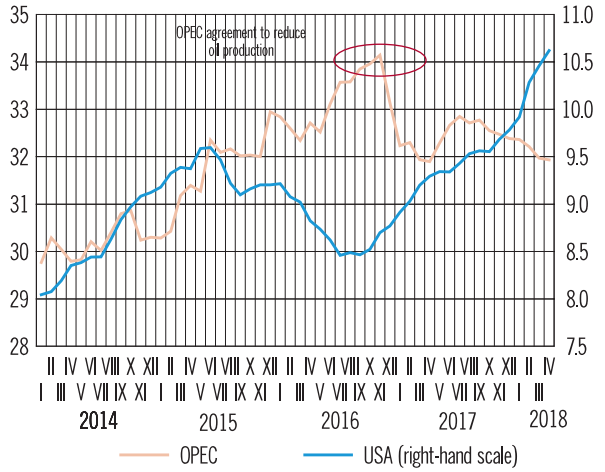
3. An Imbalance of Demand and Supply on the Oil Market

In the reporting period, the curve of oil futures entered backwardation, where futures contracts with delivery in several years are traded with a discount to futures with delivery in the near future (Figure 10). Such a transition is a sign of the ongoing balancing of the market; however, the potential risks that negative trends will return still remain. In the United States, oil production continues to

develop rapidly. This is largely associated with the recent growth in the operating efficiency of shale production, which caused a decrease in the cost of oil production and the break-even price at which the project pays out. The growth of oil production in American shale basins has almost matched the reduction of offerings from the parties to the OPEC+ agreement since the date the deal was made (Figure 11). Given the further growth of oil production, one cannot rule out the possibility that the balance between demand and supply on the global oil market will change for the worse.

Figure 11

Oil production by OPEC countries and the USA (million bbl/day)



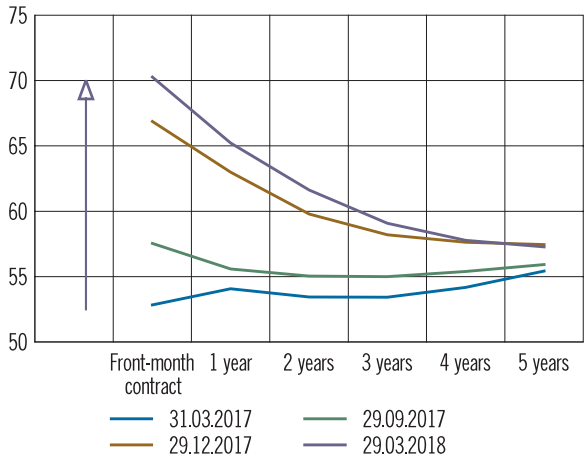
Source: Bloomberg.

4. The Influence of Financial Technologies on Volatility in Periods of Stress

Changes on the markets caused by financial innovations may play a crucial role in the transfer and amplification of risks in future. Some FinTech areas, algorithmic trade, and cryptoassets raise concerns regarding the transparency and integrity of markets, the risks of concentration, and protection of consumers and investors. In stress conditions, when significant market adjustments take place, financial technologies may have an adverse effect on the markets. For example, in recent years, investments in VIX derivatives have grown substantially (given record low VIX values, the short sale strategy was profitable). As a result, during the surge of volatility on the stock markets in February–March 2018, investors who had increased short positions against volatility growth suffered significant losses. For example, the VelocityShares Daily Inverse VIX Short-Term exchange-traded note (XIV) developed by Switzerland's Credit Suisse lost 93% of its value, and its trading was halted. This contributed to an increase in synchronous sales of shares by the algorithmic programmes of various major players. At the same time, during stress investors began to make mass investments in VIX derivatives, which provide a way to hedge the risk of market decline; this put additional pressure on the volatility index and the underlying asset market.

Figure 10

Futures curves of Brent oil (USD/bbl)



Source: Bloomberg.

5. Geopolitical Risks

The intensification of international tension may cause risk aversion on the part of global investors and redistribution of capital flows. Potential uncertainty factors include protectionism and currency wars, sanctions, geopolitical tension (DPRK, Middle East), political disagreements in Europe, and elections in individual EMEs. The trade conflict between the US and China that escalated in March 2018 may cause a chain reaction and the imposition of numerous protective barriers. In general, the large-scale materialisation of geopolitical risks may lead to a longer decline of stock markets, growth of market volatility, reduced global commodity turnover, and renewed risks of a slowdown in global economic growth. In conditions of stress, EMEs are generally most affected, though their resistance to external challenges has grown in recent years.

Box 1. Risks associated with cryptoassets

In the reporting period, the high volatility of cryptocurrencies was a much-debated topic. In particular, the bitcoin exchange rate grew from $5,000 in October to $19,000 in the middle of December 2017, but then it started to fall again and in February 2018 dropped below $6,000. Other cryptocurrencies also demonstrated high volatility. As of the beginning of May 2018, the bitcoin exchange rate was fluctuating between $9,000 and $10,000.

In global practice, the term 'cryptocurrency' is gradually falling out of use, as cryptoassets no longer perform the main functions of money. The high price volatility of cryptoassets prevents them from being a reliable measure of value or a means of exchange and saving. In practically all countries worldwide, cryptoassets are not legal tender and are not guaranteed by the government. Instead of the term 'cryptocurrency,' the Financial Stability Board (FSB) suggests using the term 'cryptoasset,' as it may be regarded as a type of financial asset based on cryptography and distributed ledger technology. This term covers both 'coins' and tokens, assets recorded in a distributed ledger and confirming the holder's right to share in a company's capital or a project's profits, or giving the holder creditor status or access to project services.

As of 28 May 2018, the capitalisation of the cryptoassets market amounted to $311 billion, of which bitcoins accounted for 39.2%[1]. The cryptoassets market amounted to 0.36% both in relation to global GDP (according to IMF data as of the end of 2017) and in the aggregate volume of bank assets (according to BIS data as of the end of December 2017).

Despite their high volatility, currently, cryptoassets do not pose any risk to global financial stability, as the volume of operations with them is very small as compared to the scale of the global financial system, and the interrelation of this segment with the financial system is low. Cryptoassets could pose a threat to financial stability in the case of further market growth; large-scale involvement of retail and institutional investors, banks, and other traditional market players; and adoption of cryptoassets as a widespread means of payment. In this case, financial intermediaries would bear the liquidity risk, market risk, and credit risk typical of cryptoassets, and the interrelation of major financial institutions could cause the spread of such risks to a wider circle of market players and the real economy.

Nevertheless, even now we can identify the following risks associated with investments in cryptoassets:

1) Lack of protection for investors' rights. The lack of any investment guarantee system or a single issuer and the uncertainty of the legal status of cryptoassets make it impossible to ensure the due protection of investors. There is a risk of illegal activities and deception of investors (similar to financial pyramids).

2) Risks in the area of preventing money laundering and the financing of terrorism. Using cryptoassets ensures the anonymity of operations, which provides a suitable environment for illegal operations, such as the financing of terrorism, money laundering, trade in illegal goods, etc. The large number of parties involved, the recording of information in a distributed ledger and the cross-border nature of operations make it difficult to monitor and control the operations.

3) Shortage of market liquidity, concentration of cryptoassets in the hands of a small circle of players, and high volatility of their value. Currently, cryptoassets are concentrated in the hands of a small number of players (for example, 97% of bitcoins are concentrated in 4% of bitcoin addresses[2]). This has an adverse effect on the liquidity of cryptoassets and creates the conditions for high volatility of their value. The more or less large-scale sale of bitcoins by their key holders will be associated with a significant drop in their exchange rate (and probably that of other cryptoassets, as their values are correlated to a large extent).

4) Operational risks. The distributed ledger technology that forms the basis for operations with cryptoassets is still immature and error-prone and is undergoing testing for various vulnerabilities. Regarding operational risks, the vulnerability of the wallets where cryptoassets are stored to cybercrime deserves special attention. Recent examples of hacker attacks on such cryptocurrency platforms as Bitfinex and Coincheck prove that these technologies do not yet provide an adequate level of security.

5) Use of leverage. Buying cryptoassets with borrowed funds may pose significant risks for the financial stability of investors due to the high volatility of their value. Methods of financing the acquisition of cryptoassets may include purchase by credit card, taking out various types of bank loans, or margin trading on cryptoasset exchanges. According to a survey by Coindesk, about 20% of bitcoins were bought on credit (and 52% of the borrowed funds have already been repaid)[2]. Also, investment of borrowed funds in cryptoassets increases the interrelatedness of traditional

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[1] *https://www.cointracker.io/prices.*

[2] *https://www.coindesk.com/state-blockchain-2018 slideshow/.*

market players in the financial market with the cryptocurrency market. To reduce these risks, financial institutions may limit lending for the acquisition of cryptoassets. For example, Bloomberg writes that banks are starting to suspend operations for the purchase of bitcoins using credit cards[3].

According to the estimates of a number of major banks, the Russian segment of cryptocurrency investments is little related to the traditional players of the financial market. The observed volatility in the value of cryptoassets had no effect on the operations of banks and payment systems.

The low transparency of the market and its global nature may be potential sources of systemic risk. The degree of maturity and implementation of measures regulating mining, exchange of cryptoassets for fiat money, operations with cryptoassets, and initial coin offering (ICO) varies substantially from country to country. Regulators are taking certain steps in Japan (licensing of cryptocurrency stock exchanges), the US (a requirement to register ICOs with the SEC if the tokens being issued fall within the definition of securities), the EU (the 5th AML Directive, a revised AML/CFT Directive establishing requirements for exchange platforms and the providers of electronic tokens, including requirements for user identification), China (prohibition of cryptocurrency circulation and ICOs), and Australia (requirements for exchange platforms and user identification, draft law on taxation of operations with cryptoassets). In Russia, the State Duma is considering a draft law which defines the key concepts in operations with cryptoassets (digital financial asset, digital transaction, token, mining, etc.) and is intended to regulate the relations arising during the creation, issue, storage, and circulation of digital financial assets, as well as the exercise of rights and fulfilment of obligations under smart contracts.

The current global inconsistency of approaches to regulating operations with cryptoassets creates the possibility of regulatory arbitrage — or benefiting from differences in regulation in various jurisdictions. And since operations with cryptoassets are often cross-border in nature, the risks they pose for investors may apply to jurisdictions with tougher regulation. This especially concerns compliance with requirements in the area of countering money laundering and the financing of terrorism. To reduce the risk of regulatory arbitrage on an international level, the FSB, together with standard-setting bodies, is developing proposals for a common approach to the regulation of operations with cryptoassets.

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[3] https://www.bloomberg.com/news/articles/2018 02 07/bitcoin-on-credit-for-20 percent-of-owners-that-s-a-yes.

2. RISKS OF THE RUSSIAN FINANCIAL MARKET UNDER SANCTIONS

In April 2018, the Russian financial market experienced a sharp surge in volatility caused by new sanctions imposed by the United States. The sanctions resulted in the weakening of the ruble and a loss in the value of securities due to their sale by non-residents. The longest and largest-scale sales, in the amount of about 100 billion rubles, took place on the federal loan bond (OFZ) market. In the first days, the situation was also aggravated by continued negative publicity regarding further possible tightening of sanctions on the backdrop of escalation of the conflict in Syria. As a result, the stock index of Moscow Exchange dropped by 8.3% on the first day, and the yield curve of federal loan bonds moved up 50–60 basis points. In the next two weeks, the market mostly made up the losses: the stock index of Moscow Exchange increased by 6.8%, while the yield curve of federal loan bonds dropped 30 basis points. Despite the sharp growth of market volatility, the response of market players was short-term and did not require any significant interference from the regulator. The Russian financial market demonstrated maturity and adequate resilience to external shocks.

One of the significant external risks that affected the Russian financial market in April 2018 was the intensification sanction restrictions. Unlike the past episodes, restrictive measures implemented in April 2018 by the US imposed severe sanctions which it had not used before: it placed a number of major public companies with a high share of export products on the SDN (Specially Designated National) list. As a result, these organisations forfeit the right to export their products to the US, perform other commercial transactions with US residents, or make settlements (including servicing of their obligations) in US dollars.

The factor of increased sanction risk also includes secondary sanctions that may be imposed under the US sanction policy on any corporate or natural person acting for the benefit of organisations on the sanction list. Initially, sanctions in respect of American business partners of sanctioned companies were to take effect after 5 June 2018. However, the end date of the deferral period for sanction restrictions was postponed to 23 October 2018.

The placement of public companies on the SDN list restricts the circulation of their securities, as American investors were initially obligated to sell them before 7 May 2018. Later, the permitted period for holding the said securities was prolonged for one month. With regard to Rusal Eurobonds, their sale was problematic, as Euroclear suspended their servicing, and the information systems (Bloomberg and Thomson Reuters) stopped transmitting the quotations of their securities.

In the first days, the situation was also aggravated by continued negative publicity regarding further possible tightening of sanctions on the backdrop of escalation of the conflict in Syria. For this reason, along with the revaluation of risks for the securities of sanctioned companies, the overall interest of foreign investors in the Russian market decreased.

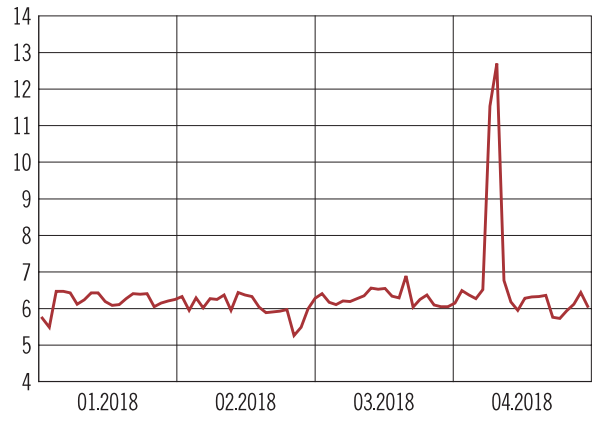
After the announcement and subsequent relaxation of sanctions, the securities of companies placed on the SDN list demonstrated high volatility. On the day when the sanctions were announced, the market value of En+Group's shares went down over 20%, and the value of OK Rusal's shares went down over 13%. In the following days, the shares continued to fall and lost a maximum of 60% and 42%, respectively; however, after it was announced that the sanctions against OK Rusal may be relaxed, the value of its shares increased by 47% (against the minimum value), gaining back most of its previous losses.

The sanctions imposed on the Russian financial market resulted not only in increased volatility of the securities of those companies that were included in the SDN list but also affected a wide range of Russian assets. First of all, non-residents strove to reduce their currency risks and close part of the positions previously opened in the Russian market.

As a result of foreign currency demand shock, quotations in the off-shore NDF market increased

Figure 12

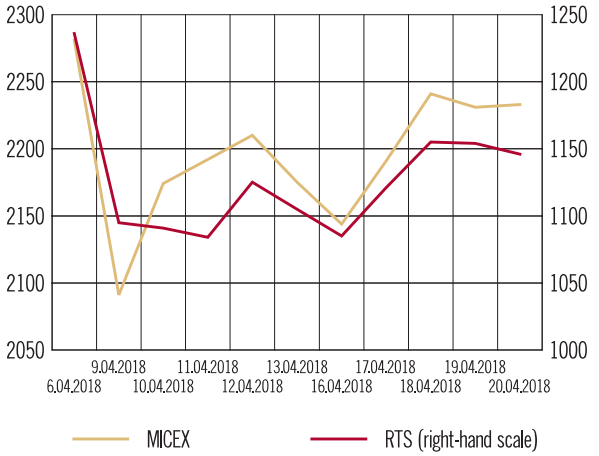
Dynamics of imputed ruble rates for foreign currency forwards (%)



Source: Bank of Russia.

Figure 13

Dynamics of the RTS and Moscow Exchange stock indices



Source: Bank of Russia.

sharply. There was substantial growth of imputed ruble rates for NDFs, which went up to 13% in the first days. The high demand for currency forwards was transmitted through the buying of foreign currency in the Russian market. Demand came mainly from subsidiary foreign banks.

As a result, there was a revaluation of the ruble exchange rate, which fell 7.9% against the US dollar and 8.5% against the euro over two banking days. The implied volatility of one-month RUB/USD FX options went up 10.4 p.p. to 19.8%. The drop in stock indices on the first day of risk materialisation was substantial and amounted to about 13% for the RTS index and 8% for the MOEX index.

The withdrawal of non-residents from the Russian market was also followed by an adjustment of the yield curve in accordance with the revaluation of sanction risks. The return on federal loan bonds grew by 50–60 bps in the short section of the curve and by 40–50 bps in the long end, and the sovereign risk premium for CDSs increased by 33 bps to 151 bps. On the corporate bond market, the growth of yield for most issues was equal to the shift of the federal loan bonds curve and did not exceed 100 bps. An exception was the securities of individual companies most affected by the sanctions imposed.

The largest-scale withdrawal of non-residents was on 9 April in the stock market and the federal loan bonds market (about 20 billion rubles on each market). On 10 April, net sales on the OFZ market amounted to 30 billion rubles. Thus, over the first two days, the sales of Russian assets by non-residents amounted to about 70 billion rubles. In the following days, foreign investors returned to the stock market as net buyers but remained net sellers in the OFZ market.

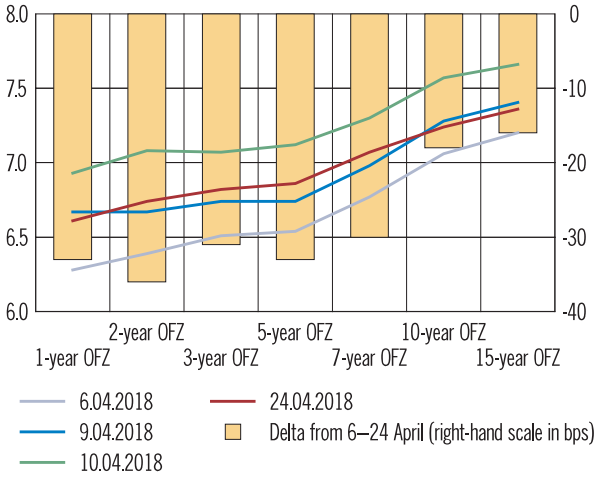
Practically all the demand from subsidiary foreign banks in the internal currency market materialised in the first banking days after the imposition of sanctions. In the aggregate, they acquired foreign currency in the amount of about 140 billion rubles in ruble equivalent. Thus, the time when the positions on the stock market were closed shows that foreign investors hedged their currency risks in advance on the first day of materialisation of the shock in the light of possible plans for withdrawing from the market in future.

Moreover, the net purchase of foreign currency by non-residents on 9–10 April 2018 in an amount exceeding the net sales of securities was also associated with the closing of long positions in the currency swap segment. Subsequently, as the intensive buying of foreign currency stopped, non-residents restored long positions in this segment of the money market.

Despite such a sharp and significant increase in demand for foreign currency, the Russian currency market functioned sustainably, as it had sufficient orders for the sale of foreign currency. Foreign currency was offered mainly by Russian banks servicing major exporters. Despite the weakening of the ruble, the population did not demonstrate any significant interest in buying foreign currency but, on the contrary, acted as a net seller of foreign

Figure 14

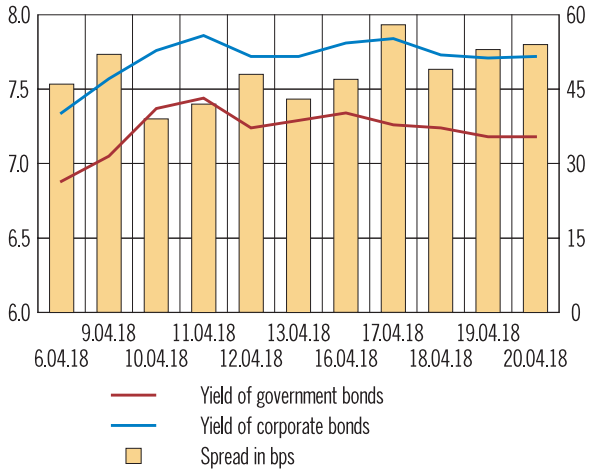
Dynamics of the yield curve in the OFZ market (%)



Source: Bank of Russia.

Figure 15

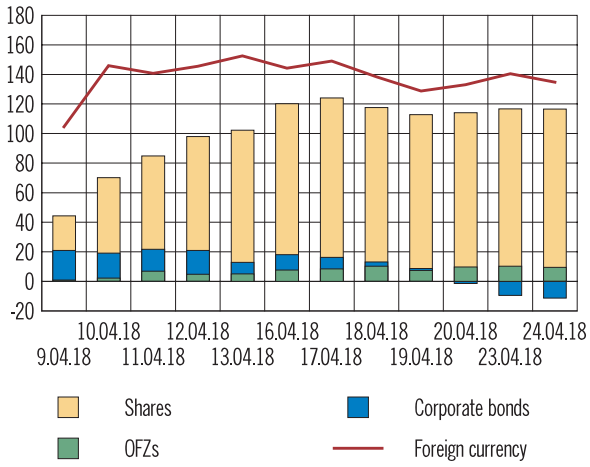
Dynamics of indices of corporate and government bonds (%)



International Energy Agency.

Figure 16

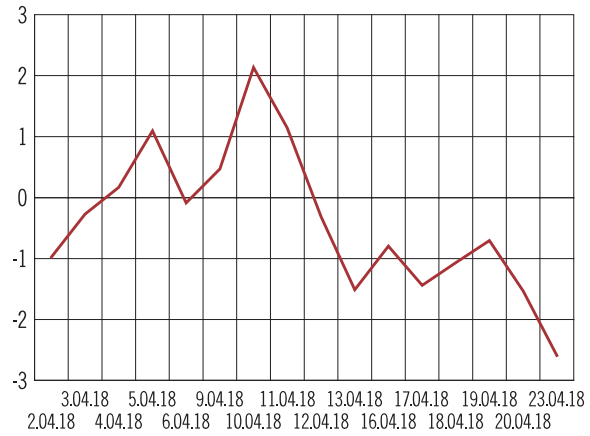
Net purchases of foreign currency and net sales of securities by non-residents (cumulative total, RUB billion)



Source: Bank of Russia.

Figure 17

Net position of subsidiaries of foreign banks that are major buyers of foreign currency in the currency swap market (USD billion)



Source: Bank of Russia.

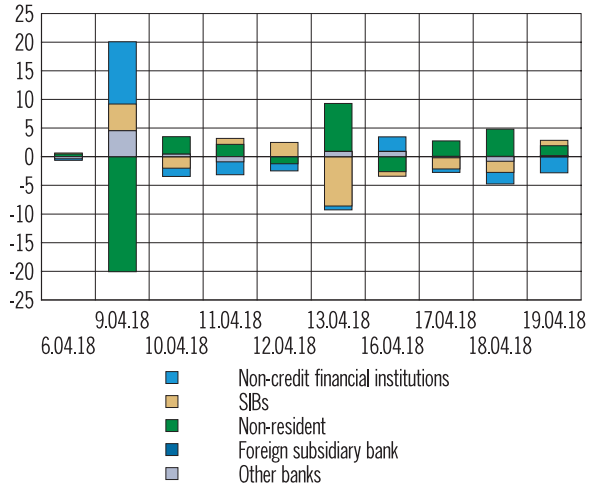
currency in this period. To maintain a sufficient volume of net foreign currency offerings, the purchase of foreign currency for fulfilment of the fiscal rule was suspended as of 9 April 2018. The purchase of foreign currency was resumed starting 17 April 2018, and the volumes of day trades evenly adjusted upward in the light of the operations not made before that time.

As a result of growing demand and sufficient offerings, the turnover in the internal currency exchange market on those days grew to 2.5 times its average level. Also, the key indicators of currency market capacity did not indicate any critical loss in liquidity. The volume of applications in the 0.5% spread was a little lower than its average values but was much higher than the values observed during the shock period in 2014. Thus, the adjustment of the ruble exchange rate was entirely related to the revaluation of risks on the part of foreign investors.

The liquidity level in other segments of the Russian financial market also remained unchanged. Moscow Exchange halted trading only for the shares of individual companies (Rusal, Polyus, and Mechel) which were the most sensitive to the shock. In general, the large-scale net sales by non-residents in the stock market ended on the first day of the turbulent period, and in the following days the low prices for shares were attractive to purchasers and caused non-residents to return to the market as net buyers, which ensured the further growth of stock indices.

Figure 18

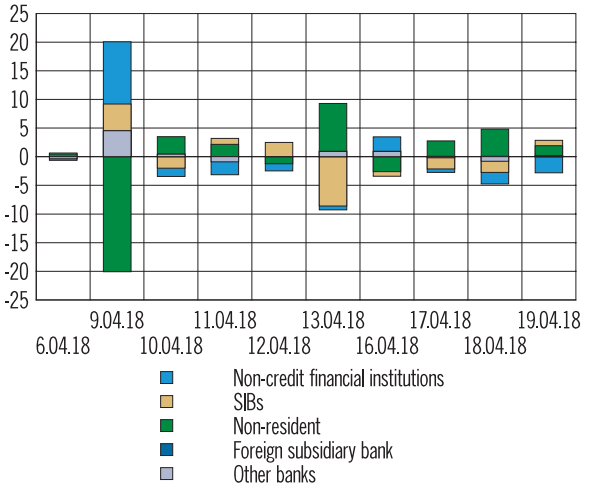
Structure of net operations of the main categories of players in the stock market



Source: Bank of Russia.

Figure 19

Structure of net operations of the main categories of players in the OFZ market



Source: Bank of Russia.

In the period of increased volatility, the OFZ market did not show any distortions in pricing either. The higher return on OFZs was attractive for Russia's systemically important credit institutions, which were the main buyers of OFZs in that period. Thus, as the Bank of Russia expected, the risks that non-residents would withdraw from the OFZ market were limited by potential domestic demand in the light of regulatory requirements that systemically important credit institutions comply with the short-term liquidity ratio. Initially, the high percentage of foreign OFZ investors (34.1% as of 1 March 2018) did not prevent the achievement of market balance without the regulator's interference. Systemically important credit institutions were also the key buyers on the corporate bond market, while sales by non-residents were limited, as their investments in corporate bonds did not exceed 10%–15%.

In general, the sensitivity of the Russian market to the tightened sanctions to a large extent reflected both the direct prohibition on holding the securities (exposures) of the sanctioned companies and the growing uncertainty regarding the short-term consequences and long-term prospects of the scenario's development.

At the same time, in this period, the Russian financial market demonstrated a mature response and adequate resilience to the external shock. The key stability factors included a stable macroeconomic situation (recovery of economic growth, low inflation, a reduced budget deficit, and a low budget debt burden) and the margin of safety of the financial sector.

The Bank of Russia's assessment of the effect that the materialised sanction risks might have on financial sector participants showed that their losses would be limited, and they could absorb them at the cost of equity. The decrease in the equity of financial organisations resulting from the deteriorated credit quality of claims against companies on the sanction list and the devaluation of securities is moderate and does not pose any threat to the stability of Russian financial institutions.

Nevertheless, to mitigate the adverse effect of sanctions imposed on legal entities by individual foreign countries on the performance indicators of credit institutions and to support lending in sectors of the Russian economy, on 23 April 2018, in its letter No. IN-016-41/22, the Bank of Russia introduced measures effective until the end of 2018 enabling credit institutions to decide not to lower its assessment of a borrower's (counterparty's) financial standing, the quality of debt servicing under the loan (for example, in the case of loan restructuring or overdue payments), the category of loan quality, other assets, contingent credit obligations, or the category of security quality. Such decisions will allow credit institutions not to increase their provisions for possible losses under loans, other assets, and contingent credit obligations compared to the last reporting date preceding the date the sanctions were introduced.

3. SYSTEMIC RISKS OF THE BANKING SECTOR

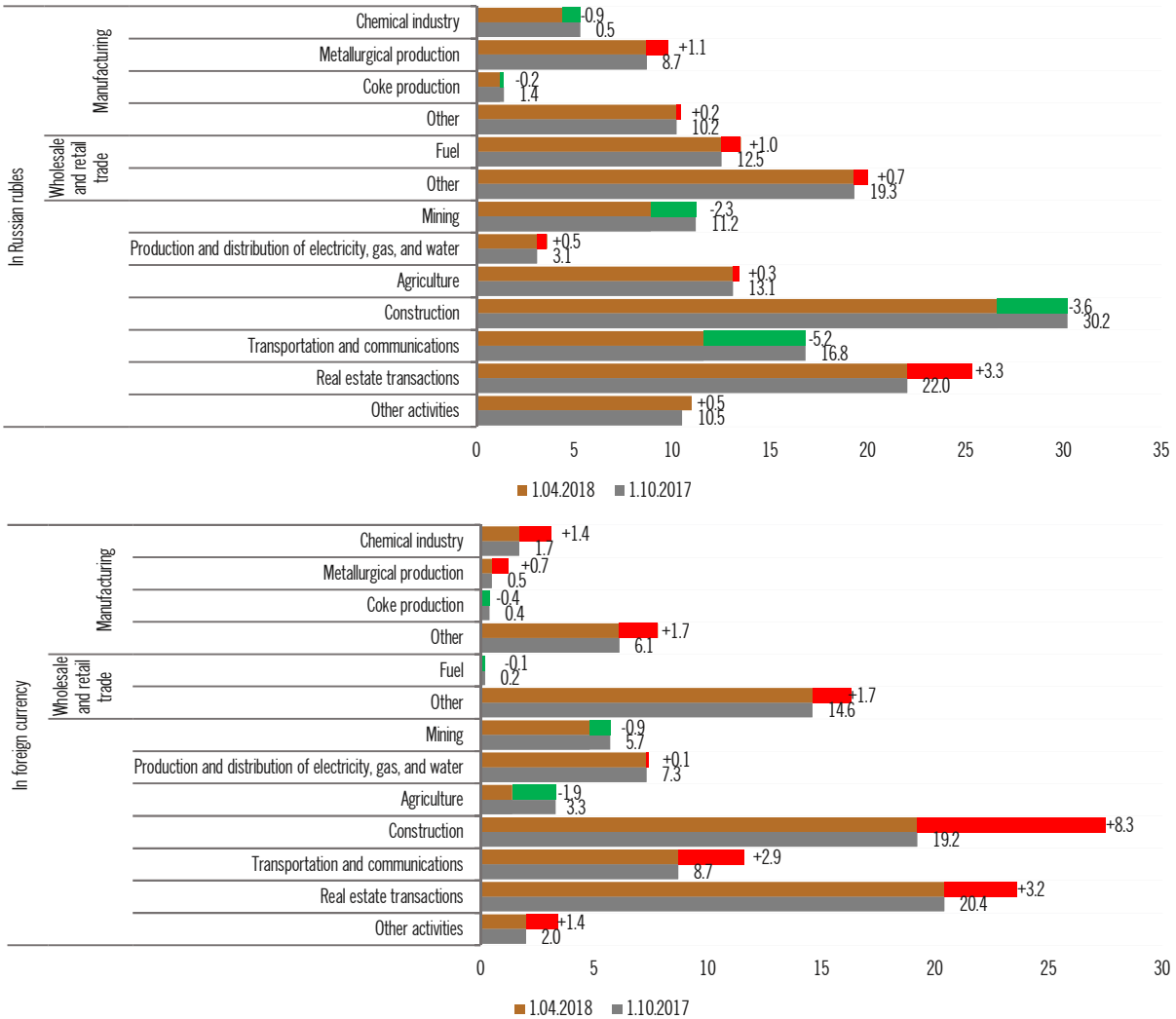
3.1. Quality of Portfolios of Bank Loans to the Corporate Sector

The corporate loan portfolio demonstrates moderate rates of debt growth and a small reduction of non-performing loans (NPL) in the banking sector, excluding the banks undergoing financial rehabilitation. In general, the quality of loan portfolios in key sectors of the economy for the period in question did not deteriorate, and individual industries demonstrated a tendency towards a reduction of the share of NPLs.

From 1 October 2017 to 1 April 2018, the banking sector showed poorer quality of the loan portfolio overall. As of 1 April 2018, the share of loans of quality categories IV and V increased by 0.5 p.p. to 12.2%, and overdue debts increased by 0.2 p.p. to 6.9%. At the same time, the growth of NPLs in banks undergoing financial rehabilitation caused the deterioration of quality of the loan portfolio both for the corporate sector in general and for individual economic activities. Excluding such banks, the share of loans of quality categories IV

Figure 20

The share of loans of quality categories IV and V overall in the banking sector for the period from 1 October 2017 to 1 April 2018 (%, changes in p.p.)



and V decreased by 0.7 p.p. to 7.9%, and the share of overdue debts decreased by 0.4 p.p. to 3.6%. In this respect, one may conclude that the period of risk materialisation with regard to loans to legal entities has passed, and loan quality deterioration exists for individual banks with regard to previously accumulated risks.

The share of loans of quality categories IV and V decreased significantly for loans issued to mining companies (by 2.3 p.p. to 8.9% for loans issued in rubles and by 0.9 p.p. to 4.8% for loans in foreign currency). In the mining segment of oil, solid, and gas fuel wholesale trading, an increase in the share of NPLs for credits in rubles by 1 p.p. to 13.5% was caused by a reduction of debt for the credit portfolio, and not by an increase in debt for NPLs, which remained unchanged. The overall situation **in the oil and gas sector** in 2017 was positive. The growth of global oil prices in 2017 contributed to better financial indicators of Russian oil and gas companies. For example, as of the end of 2017, the aggregated EBITDA indicator for major companies[1] had increased almost by 10%. As a result, for the past year, the net debt/EBITDA assessment of debt burden decreased slightly and amounted to around 1.0. However, in 2017, individual major oil companies increased their borrowings, and, as a result, their debt burden grew. The preservation or a slight reduction of current oil prices in 2018 will help maintain the financial standing of borrowers at a consistent level, provided they maintain acceptable levels of debt burden, including its currency component.

In the **construction segment**, the share of NPLs for ruble loans decreased by 3.6 p.p. to 26.6% (mainly due to the one-time reclassification of loan debt for a particular borrower into a higher quality category) but still falls within the highest level among all economic activities. Consistently bad quality of loans is also typical of the segment of **real property** operations. In this segment, the share of NPLs is increasing both for ruble and currency debts. From 1 October 2017 to 1 April 2018, the share of such loans increased by 3.3 p.p. to 25.3% for loans in rubles and by 3.1 p.p. to 23.6% for loans in foreign currency. The absence of positive dynamics in the quality of loans in the segments in question is due to the borrowers' weak financial results. According to Rosstat, in 2017, the before-tax income of companies engaged in the construction of buildings and structures went down by 42% YoY, and that of real estate companies went down by 89%. The financial standing of real-estate developers is adversely affected by the 'overhang' of supply over demand (as evidenced by the increased average sale time of flats). On the commercial property market (office property segment), despite a decrease in the commissioning of new facilities and a small recovery of demand in late 2017–early 2018, the share of vacant premises is still high. However, there is a significant level of differentiation: higher-quality facilities typically have a lower share of vacant spaces, while for lower-quality facilities this indicator is exceptionally high (over 40%).

In the **metallurgical sector**, in 2017, NPLs were maintained at a consistent level of about 9% for ruble loans and about 0.5% for currency loans (one of the lowest levels for loans denominated in foreign currency). In January–March of the current year, there was a small increase in loans of quality categories IV and V due to the repayment of loans by a number of major exporters in these months. There was no significant deterioration in the payment capacity of key borrowers. The growth of global prices for steel in 2017 led to increased earnings and operating cash flow of major iron and steel companies[2], which resulted in a reduction of their debt burden. The prices for non-ferrous metals in late 2017–early 2018 also demonstrated positive dynamics. On the backdrop of positive dynamics in global quotations, domestic prices also grew: in February 2018, the price index for metallurgical production increased by 1.6%[3] against January 2018 and by 6.2% against February 2017. In Q4 2017, metallurgy was the only industry with a significant reduction in the number of bankruptcies[4]. At the same time, there is a risk of a substantial adjustment in the prices for ferrous metal products

[1] *For a sample of six major oil and gas companies publishing their consolidated financial statements.*

[2] *Six major companies in the industry accounting for about 90% of total steel production in Russia.*

[3] *According to Rosstat.*

[4] *According to data provided by the Centre for Macroeconomic Analysis and Short-Term Forecasting. This risk may materialise if environmental restrictions imposed on the production facilities of Chinese steel companies are removed entirely; on the backdrop of beneficial pricing conditions, this is encouraging companies to increase production.*

in the second half of 2018[5]. The introduction of duties by the US will have an adverse effect on individual Russian companies (those trading in North America)[6]. The situation with non-ferrous metals will differ depending on the group of metals: at least a temporary significant reduction of aluminium exports is likely due to US sanctions.

The **transport and communication** segment is showing a significant decrease in the share of loans of quality categories IV and V, by 5.2 p.p. to 11.6% for ruble loans. Ruble loans account for the main volume of loan debt (about 80%). Payment discipline among borrowers is improving against the background of improvements taking place in the industry. In 2017, there was an increase in the total turnover of all types of transport (over 5%). The highest growth was demonstrated by transport aviation—15.5%. The key driver of growth in railway handling operations was increased coal loading; as a result of higher global prices for coal, demand for Russian coal grew. The main tendency on the civil aviation market was the recovery of demand after the recession years of 2014–2016. Air passenger turnover as of the end of 2017 showed double-digit growth (20.3%) due to the strengthening of the ruble, the opening of air traffic with Turkey[7], and the prolongation of the reduced VAT rate for domestic airlines[8]. As a result, based on 2017 performance, Russian airlines are expected to finish the year at a profit[9].

The quality of loans to borrowers from the agriculture **sector has remained at a consistent level overall for the last 12 months**. However, since autumn there has been a certain increase in NPLs, by 0.3 p.p. to 13.4% as of 1 April 2018[10]. Factors in the deterioration of borrowers' payment capacity in 2017 were decreases in the prices of grain and animal products. According to Rosstat, high yields and logistical problems had an adverse effect on the price of grain on the internal market[11], which led to poorer financial indicators of grain producers[12] (according to Rosstat, the before-tax income of crop companies for 2017 decreased by 44%). Import substitution in livestock breeding led to excessive production of some types of commodities, which, given low consumer demand, caused excess supply and a drop in prices[13] and, consequently, in the profitability of producers (the before-tax income of livestock-breeding companies decreased by 6.7%). In 2018, reduced growth rates are expected in the agricultural sector due to the high base effect. However, grain and oil-crop companies will probably be in a favourable position because of the emerging trend towards higher prices for their products. In the livestock-breeding sector, a further price downturn on the domestic market and restricted export options may be negative factors in the short term.

In connection with the substantial accumulated share of NPLs, the handling of such debts by bank operators and the clearing of balances are of special significance.

3.2. Accelerated Growth of the Consumer Lending Market

Unsecured consumer lending is showing a significant increase in annual growth rates against the background of decreasing effective interest rate for all types of loans. The quality of portfolios is improving mainly due to new lower-risk vintages replacing old generations of loans. Reduced market rates are also stimulating the growth of mortgage lending.

In Q4 2017–Q1 2018, the unsecured retail lending market demonstrated dynamic growth and improved credit quality of portfolios for most players.

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[5] This risk may materialise if environmental restrictions imposed on the production facilities of Chinese steel companies are removed entirely; on the backdrop of beneficial pricing conditions, this is encouraging companies to increase production.

[6] In the long term, there is a risk that Russian steel will be replaced on the American market with the products of local manufacturers, supported with duties introduced by the US.

[7] 2017 was the first year when airlines made the full number of flights to Turkey after the ban (effective until 2016).

[8] A 10% VAT rate for domestic airline services to stimulate flights inside the country.

[9] According to the Russian Air Transport Operators Association, the total financial result of airlines amounted to 2.8 billion rubles.

[10] The share of loans to agricultural companies denominated in foreign currency is minimal.

[11] Over 2017, the market price for 3rd class wheat dropped from 10,250 rubles to 8,300 rubles per tonne (-19%), and by the middle of March 2018 the price had risen to 8,995 rubles per tonne (+8.4%) (data of the Ministry of Agriculture).

[12] The growth of exports is restricted by problems in the port infrastructure and the lack of low-displacement vessels (as of the beginning of 2018, the largest importers of Russian grain products are Turkey, Egypt, and Bangladesh).

[13] From the beginning of 2018 to the middle of March, consumer prices for pork decreased by 2.6%; for poultry, by 2.2%; and for beef, by 0.1% (data of the Ministry of Agriculture).

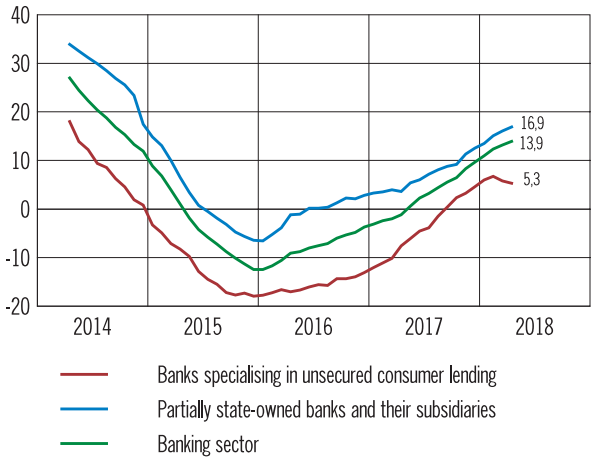
The overall annual growth rates of loan debts in the banking sector grew substantially during 2017 after zero values throughout 2016 and amounted to 14.0% as of 1 April 2018[14]; however, retail debts under unsecured loans have not yet reached the peak values of 2014–2015 (6.5 trillion rubles) and amount to 6.2 trillion rubles. Against the background of the current growth in household nominal income (income for Q1 2018 was 5.8% times higher than that for Q1 2017), the growing portfolio of unsecured loans creates the prerequisites for a potential increase in household debt loads as in the period of 2011–2014. The current level of debt burden measured as the ratio of indebtedness under unsecured consumer loans to the GDP is 6.7%, which is a relatively high figure as compared to other countries (for more details, see Section 5.1). The consumer microfinancing market is also showing significant growth rates, but the market volumes are insignificant, and the quality of MFOs' consumer microfinancing portfolios remains worse than the quality of banks' unsecured loan portfolios (for more details, see Box 2).

The high growth rates of cumulative indebtedness were primarily the result of a higher number of loans issued in cash: for the first time since 2014, the volume of loans issued in this segment exceeded 820 billion rubles per quarter. The key driver of the expansion of demand was a reduced effective interest rate for the loans of most banks. For the market in general, in Q4 2017–Q1 2018, the effective interest rate decreased by 1.6 p.p. The pricing factor still remains dominant and determines up to 75% of the variation in the volume of new issues (Figure 22).

Other types of unsecured loans also showed reduced effective interest rate: by 0.2 p.p. in credit cards and by 2.8 p.p. in POS lending (Figure 23). The overall trend towards the reduction of effective interest rate was caused by the cheapening of retail deposits (-1 p.p. for the period from 1 April 2017 to 1 April 2018 for deposits of over 1 year) resulting from the reduction of the key rate by the Bank of Russia, as well as the restriction imposed on the threshold effective interest rate in accordance with

Figure 21

Annual growth rate of outstanding unsecured consumer loans (%)



Source: Bank of Russia.

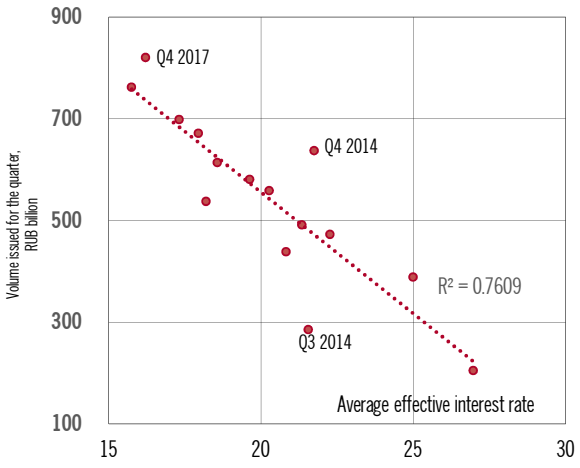
Federal Law No. 353 FZ, dated 21 December 2013, 'On Consumer Loans' and the decrease in the materialised risk value.

As effective interest rate decreased, in March 2017 and in March 2018 the Bank of Russia gradually revised the scale of increased risk ratios for consumer loans used for calculating banks' capital adequacy ratios. This revision was aimed at preserving the regulatory requirements for credit institutions, as, in conditions of cheaper funding, the former level of rates corresponded to an increased level of potential losses (for more details, see Section 5.1).

The reduction of rates made it possible not only to issue more loans but also helped to preserve the

Figure 22

Sensitivity of the volume of loans in cash to the decrease in the effective interest rate in 2014–2018



[14] *Data from the reports of credit institutions on Form 0409115 (Section 3, debt under other consumer loans grouped in a portfolio of homogeneous loans). For credit institutions operating as of the last reporting date, including previously reorganised banks.*

debt burden values of clients (PTI)[15] given the growth of average loan amounts. In the largest segment 'cash loans,' growth of the average amount of issued loans was 15.1% over six months, while the weighted average PTI value for such loans remained at 42% [16](Figure 24). The share of loans issued to borrowers with excessive debt burden (PTI over 80%) for Q3 and Q4 2017 decreased from 3.5% to 3.0%. Currently, the PTI indicator is calculated only for loans issued by one credit institution. With the introduction of a regulatory obligation for credit institutions to calculate the debt burden of natural persons for all their liabilities, the accuracy of this indicator is increasing.

The first quarter of 2018 was characterised not only by high debt growth rates but also by the gradual improvement of the credit quality of portfolios. The share of loans with arrears of over 90 days has been decreasing steadily for over six consecutive quarters and amounted to 12.2% as of 1 April 2018 (13.9% as of 1 October 2017). For the group of banks specialising in unsecured consumer lending[17], the share of such loans decreased from 27.8% to 24.4%[18].

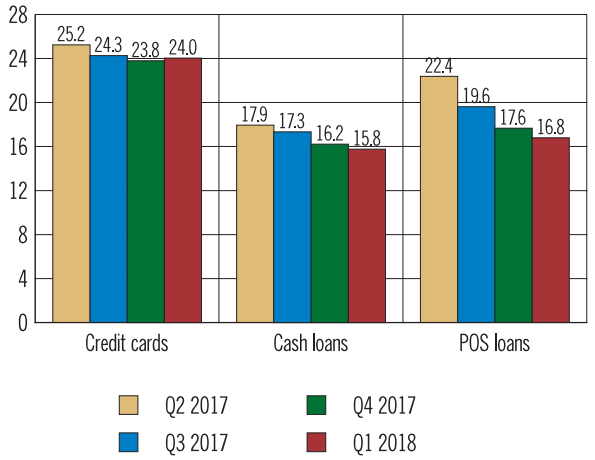
Vintage analysis shows that, for loans issued in the first half of 2017, the expected share of NPLs is less than 3.5% as of the 12th month from the issue date (4%–5% in 2016 and 10%–12% in 2014). These values are at their minimum since 2011 (Figure 25) and are approaching mortgage portfolio values (less than 1%). The credit quality of retail portfolios will improve as new generation loans replace the unsecured loan portfolios.

The decrease in the number of loans with arrears of over 90 days is partly due to the growth of the loan portfolio. With accelerated growth of the loan portfolio, a delay between the growth of arrears and the loan loss provisions (LLPs) appears, as new generations of loans do not last long enough for credit risk to materialise, while provisions are formed based on already materialised risk, for example, the number of days of arrears, rather than on expected future losses. When credit risks materialise, LLPs increase—therefore, the dynamics of LLPs are procyclical. This effect was typical of the period from 2011 to 2013 when market growth rates of over 40% led to a decrease in the coverage of the portfolio with loan loss provisions from 15% to 10% for the group of retail banks (Figure 26).

In the current conditions, the described effect is still of little significance, and the increase in the credit quality in the second half of 2017 was largely due to

Figure 23

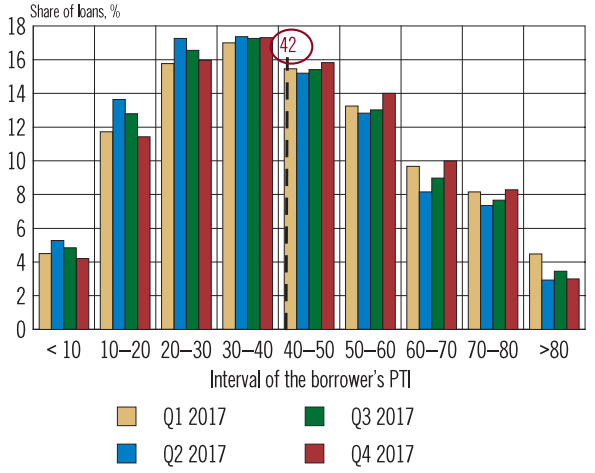
Dynamics of effective interest rate by categories of loans (%)



Source: Bank of Russia.

Figure 24

Distribution of cash loans by the value of customers' PTI (%)



Source: Bank of Russia.

[15] *PTI (payment to income) is the ratio of the amount of payments established for all loans issued to a borrower by a credit institution to the borrower's income per quarter.*

[16] *Based on a quarterly survey of banks accounting for over 69% of loan indebtedness in total under consumer loans.*

[17] *Criteria for categorisation as a bank specialising in unsecured consumer lending:– Volume of unsecured loans: over 10 billion rubles*
– *Ratio of unsecured loans to assets: over 20%*
– *Share of interest income from retail loans in the total volume of interest income: over 35%.*

[18] *Data from the reports of credit institutions on Form 0409115 (Section 3, debt under other consumer loans grouped in a portfolio of homogeneous loans). For credit institutions operating as of the last reporting date, including previously reorganised banks.*

the replacement of the portfolio by the generations of loans from 2016–2017, characterised by an exceptionally low level of risk.

The improvement of the credit quality of the loan portfolio ensured a steady increase in the return on equity of retail banks, which reached 20.3% as of 1 April 2018 (14.7% a year earlier). The profit these credit institutions received for the period from 1 October 2017 to 1 April 2018 amounted to 48.4 billion rubles (Figure 27). This is supporting the gradual recovery of the capital adequacy ratios of retail banks to the values of 2013 (Figure 28).

A risk factor in the segment of unsecured consumer lending in the medium term is the decrease in interest income of credit institutions as a result of the further decrease in the effective interest rate, which is outpacing the cheapening of the deposits of individuals. In the current situation, this gap is compensated by the significant reduction in credit risks. However, if a downward phase of the credit cycle begins, some credit institutions may face a decrease in the margins of retail portfolios as a result of the simultaneous growth of the cost of risk for the previously formed portfolio and the need to fund it at higher rates.

Risks in the market of housing (including mortgage housing) loans

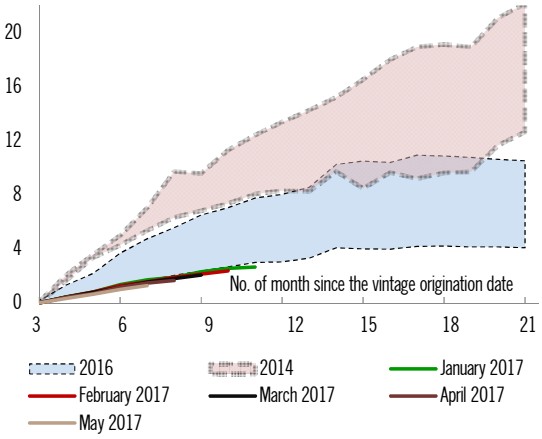
Mortgage housing lending still remains the highest-quality segment of retail lending. The share of mortgage loans for which payments are overdue for 90 days or more is insignificant. For October 2017 to March 2018, this indicator decreased from 2.3% to 2.0%[19]. A lower level of risk compared to consumer and corporate lending as well as the availability of collateral ensure the high attractiveness of this segment and, as a consequence, the active building of mortgage portfolios by all market participants. Annual growth rates of outstanding loan debt as of 1 April 2018 reached 19.0% and show signs of further growth, while interest rates for ruble loans reached their minimum historical value—9.6%. Given declining interest rates on mortgage loans, banks need to pay special attention to managing the interest rate risk of the banking book (for more details, see Section 3.5).

Since the beginning of 2017, a broad range of banks have been gradually softening requirements for borrowers in the mortgage segment of lending. During 2017, the share of newly provided mortgage loans with a down payment of less than 20% increased from 14.0% to 42.4%, and for the year as a whole such disbursements exceeded 0.8 trillion rubles. Thus, about 15% of the portfolio as of 1 April 2018 consists of loans with LTV>80%. To increase the stability of the banking sector and ensure the stable development of the mortgage segment, the Bank of Russia undertook a number of measures (for more details, see Section 5.1.).

In Q1 2018, newly issued loans with a down payment of less than 20% accounted for 44%. This may be due to the fact that banks approved part of the loans granted in Q1 of this year at the end of

Figure 25

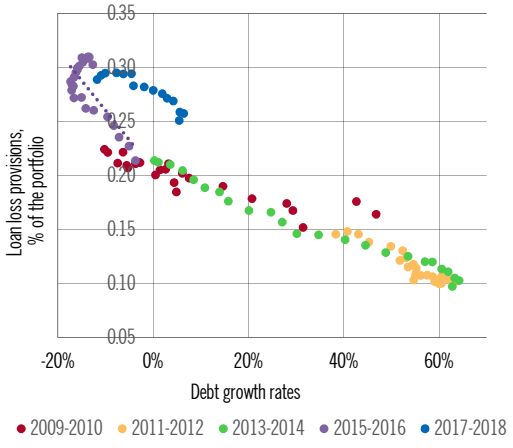
Dynamics of the share of bad loans by loan vintages* (%)



** Calculated based on the data of National Bureau of Credit Record. Covers more than 50% of the market volume.*

Figure 26

Decrease in the share of the portfolio covered by loan loss provisions as a result of the expansion of the loan portfolio (%)



[19] *Reporting data of credit institutions on form 0409115 'Information about the quality of assets of a credit institution,' taking into account acquired HMLs.*

the previous year before the introduction of higher risk ratios. Therefore, it will be possible to assess the effectiveness of the measures at the end of the second quarter.

Against the background of the decrease in the amount of the down payment, credit institutions are retaining requirements for the income level of potential borrowers: the weighted average PTI for newly issued loans in Q4 2017–Q1 2018, despite the increase in the average loan amount (8.4% per year), remained at the level of 46%, in line with the values of 2015–2016. The preservation of PTI was promoted by a significant decrease in mortgage rates: -2.5 p.p. for 2017–Q1 2018.

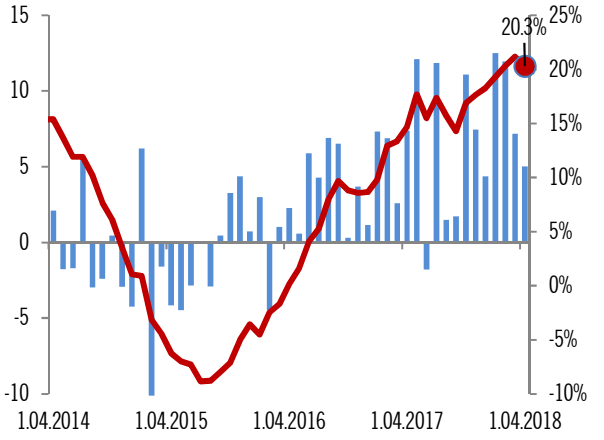
High growth rates persist in the segment of housing mortgage loans secured by rights of claim under equity participation agreements ('HMLs under EPAs')[20]: the share of this segment in mortgage loans amounts to 21.4% as of 1 April 2018 (1.2 trillion rubles).

An assessment of the quality of HMLs under EPAs shows that in this segment the share of overdue debt is lower[21] than for the total portfolio of HMLs in rubles, 0.3% compared to 1.0% as of 1 April 2018. The level of arrears of 90 days or more in the mortgage segment on the primary housing market (pledge of rights under EPAs) is significantly (6–7 times) lower than in the segment of mortgage lending on the secondary market; however, under EPAs of problematic construction sites, the delay is already comparable or significantly higher (depending on the condition and stage of a particular problematic construction site). Furthermore, this problem could deepen if new unscrupulous developers appear.

In order to improve the mechanism for the financing of housing construction, the Government of the Russian Federation together with the Bank of Russia developed an Action Plan (Road Map) for the gradual replacement over the course of three years of the funds of citizens attracted for the building of residential real estate and other real estate with bank lending and other forms of financing, minimising the risk for citizens. The road map is aimed at replacing the funds of citizens attracted by developers with bank lending (banks will verify that the funds are spent for their intended purpose). As the transition to the target model of housing finance proceeds, the likelihood of a negative scenario in the segment of HMLs under EPAs will decrease.

Figure 27

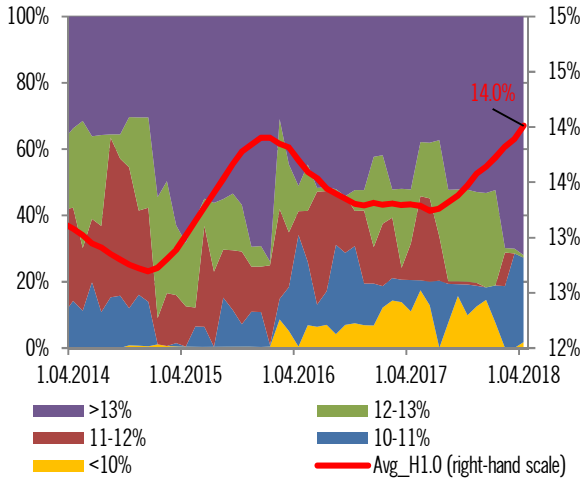
Financial result (RUB billion) and ROE (right-hand scale) of banks specialising in unsecured consumer lending



** The ratio of the financial result for the 12 months preceding the reporting date to the amount of the credit institution's equity capital.*

Figure 28

Distribution of the equity of banks specialising in unsecured consumer lending, by the value of N1.0



[20] *Debt on HMLs under EPAs in foreign currency is insignificant and amounts to 1.0 billion rubles as of 1 April 2018.*

[21] *Bank reporting forms contain no data on loans with debts overdue for over 90 days in the segment of HMLs under EPAs.*

Box 2. MFO market trends

The annual growth rate of PDL microloans decreased to 20.9%

As of the end of 2017, the portfolio of consumer microfinancing showed quite high growth rates, having increased by 33.1% to 88.8 billion rubles. The main driver of growth was consumer instalment microloans[1], the volume of which reached 63.4 billion rubles (+ 38.7% over the year). In the segment of payday loans (PDLs), for the first time in several years, the growth rate of quarterly disbursements slowed down significantly: from 42% (Q2 2017/Q2 2016) to 3.2%

Figure 29

Dynamics of the portfolio and rates of issuance of consumer microloans

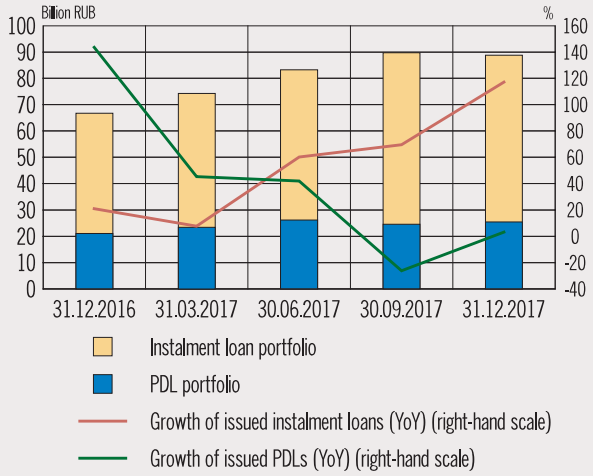
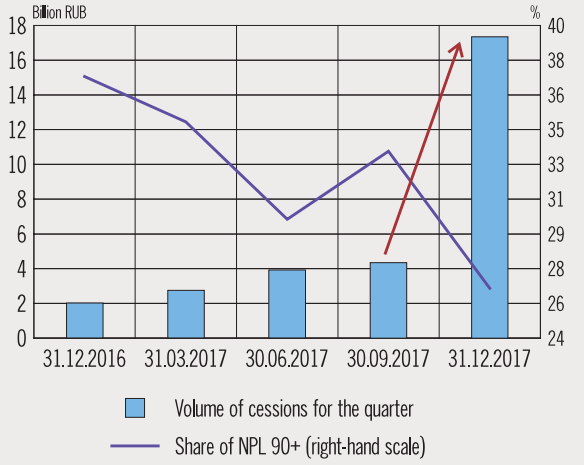


Figure 30

Volume of cessions and share of NPL 90+ over time



(Q4 2017/Q4 2016), which led to a reduction in the annual growth rate of the portfolio from 59.2% to 20.9% (Figure 29). In order to improve the operation of MFOs and reduce the debt burden of the population, in 2017, the Bank of Russia approved the Core Standard for MFO Risk Management, establishing MFOs' duty to set up a risk management system, and the Core Standard for the Protection of the Rights and Interests of Individuals and Legal Entities for MFOs[2], including a limitation on the number of concluded contracts between an MFO and one borrower. At the same time, during 2017, measures were tightened in terms of provisioning of claims under short-term micro-loans[3] to discourage the accumulation of the non-performing portion of the portfolio. Also at the end of 2017, the grace period for the formation of provisions for possible losses on microloans ended[4].

The share of NPL 90+ declined amid record volumes of assignments in the fourth quarter

The decrease in the portfolio of consumer microloans in Q4 2017 was due to the assignment by several large market players of a large volume of claims under microloans (Figure 30), in view of which the share of non-performing microloans (NPL 90+) decreased significantly from 33.6% to 26.6%. Coverage of non-performing microloans with reserves as of the end of the year amounted to 84.8% (+13.7 p.p. over Q4 2017).

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[1] *Microloans of more than 30,000 rubles for a period of more than 30 days.*

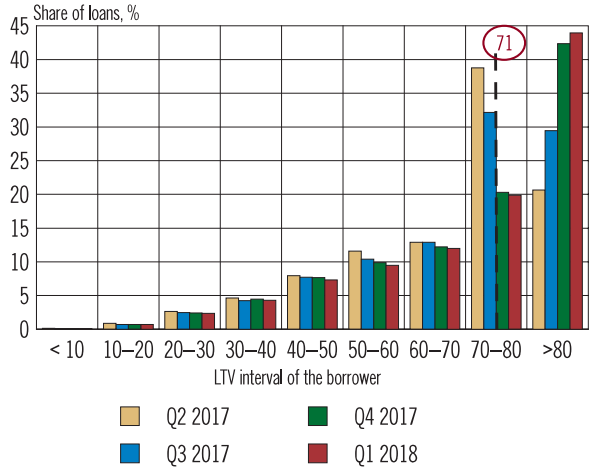
[2] *'Core standard for the protection of the rights and interests of individuals and legal entities receiving financial services provided by the members of self-regulatory organisations in the financial market uniting microfinance organisations,' approved by the Bank of Russia on 22 June 2017.*

[3] *In accordance with Instruction of the Bank of Russia No. 4406-U, dated 13 June 2017, 'On Amendments to Instruction of the Bank of Russia No. 4054-U, Dated 28 June 2016, «On the Procedure for the Formation of Provisions for Possible Losses on Loans by Microfinance Organisations.»'*

[4] *Starting 31 December 2017, MFOs are required to create provisions for possible losses on microloans in full from the estimated value established by Instruction of the Bank of Russia No. 4054-U.*

Figure 31

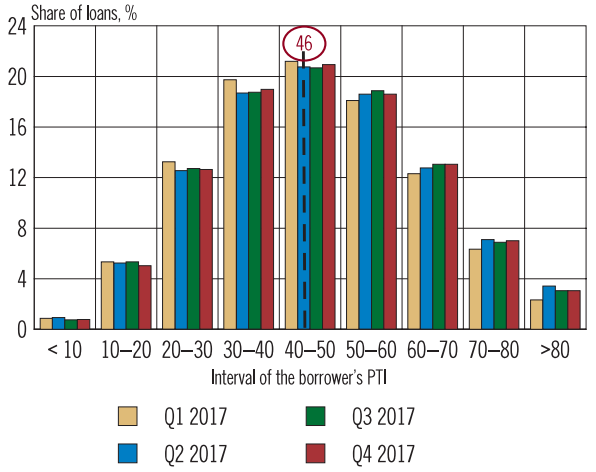
Distribution of mortgage borrowers by LTV



Source: Bank of Russia.

Figure 32

Distribution of mortgage borrowers by PTI



Source: Bank of Russia.

3.3. Liquidity Risks of the Banking Sector

Against the backdrop of the growth of the structural liquidity surplus, most banking sector liquidity ratios demonstrated positive movement in Q4 2017–Q1 2018, and systemically important banks showed a decrease in the deficit of high-quality liquid assets (HQLAs) taken into account for the calculation of the Liquidity Coverage Ratio (LCR). However, individual credit institutions still show demand for irrevocable credit lines included in the calculation of the Liquidity Coverage Ratio. One of the reasons for this is an increase in potential cash outflow due to the increase in the share of short-term liabilities in the total volume of liabilities of banks. Furthermore, as a result of the reduction in the maturity of the liabilities of credit institutions in systemically important credit institutions, the values of the N2 and N3 ratios have deteriorated compared to the beginning of Q4 2017 (although they are considerably greater than the minimum values). In other banks, as a result of a decrease in the potential outflow of funds of financial institutions and the simultaneous growth of HQLA, the LCR for the reporting period increased from 67.7% to 99.1%.

In Q4 2017–Q1 2018, given a structural liquidity surplus, the majority of credit institutions more than complied with the liquidity ratios N2 and N3: as of 1 April 2018, the average actual value of the N2 instant liquidity ratio in systemically important banks (SIBs) was 126%, and for other banks it was 112% (the minimum admissible value is 15%); the average value of SIBs' N3 current liquidity ratio was 178%, and for other banks it was 168% (the minimum admissible value is 50%).

At the same time, the trend towards growth of short-term liabilities in the total amount of liabilities remained. Since early 2015, the share of short-term deposits of individuals (up to a year) in total deposits increased from 35% to 58%. From 1 October 2017 to 1 April 2018, this indicator increased by 2.8 p.p. The share of short-term deposits of legal entities also grew from the beginning of 2017; as of 1 April 2018 it was 57.8%. A high share of short-term liabilities in case of stress can exacerbate the materialisation of liquidity risk in the form of a sharp outflow of deposits and the need to sell (including under repo transactions) a significant volume of assets.

In addition to the N2 and N3 ratios, systemically important credit institutions must comply with the Liquidity Coverage Ratio, N26 (N27). Starting in 2018, the minimum admissible value of the Liquidity Coverage Ratio for SIBs was raised from 80% to 90%[22]. As of 1 April 2018, the actual values of N26 (N27) of SIBs range from 96% to 230%, with a number of banks continuing to include irrevocable credit lines in the calculation of the LCR indicator. Between 1 October 2017 and 1 April 2018, of the six banks that concluded an agreement on the opening of an irrevocable line of credit with the Bank

[22] *As of 1 January 2019, the minimum admissible value of the N26 (N27) ratios will be increased to 100%.*

Figure 33

Dynamics of the N2 ratio in SIBs and other banks (%)

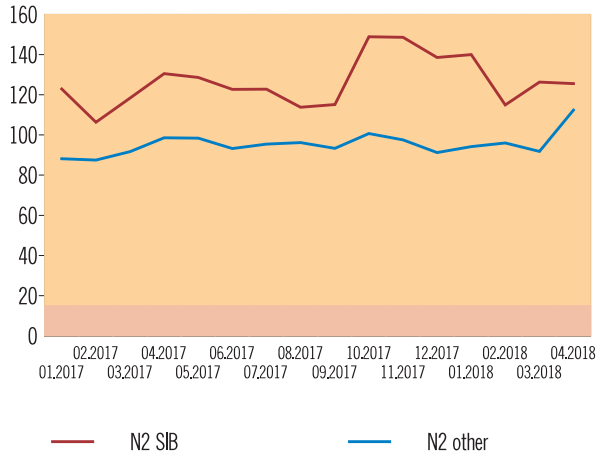


Figure 34

Dynamics of the N3 ratio in SIBs and other banks (%)

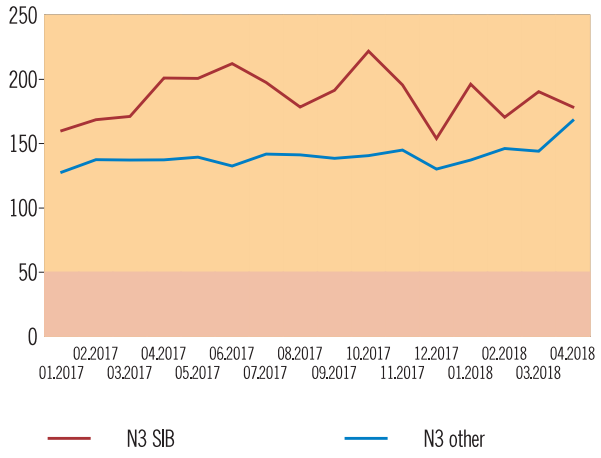


Figure 35

Share of deposits with a maturity of up to one year in total deposits (%)

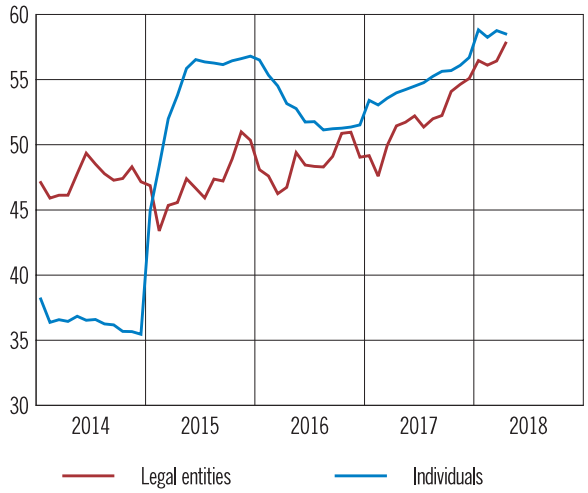
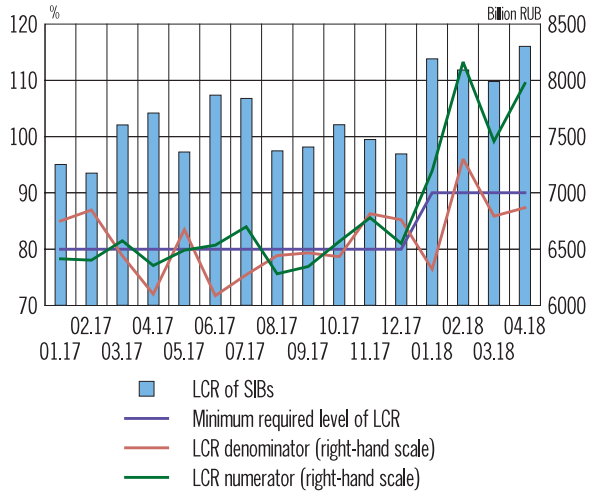


Figure 36

Average LCR value for SIBs



of Russia, three banks included this amount in the calculation of the N26 (N27) ratio. Over the last two quarters, SIBs increased the amount of irrevocable lines of credit included in the calculation of the LCR. For example, the share of irrevocable lines of credit in the numerator of the LCR indicator increased during the reporting period from 1.79% to 3.45% (as of 1 April 2018). The maximum was achieved in February 2018, when the volume of irrevocable lines of credit included in the calculation of the LCR amounted to 540.8 billion rubles. The increase in the volume of limits of irrevocable lines of credit included in the calculation of the LCR is associated to approximately the same extent with the increase in the minimum allowable value of the LCR and with the shortage of high-quality liquid assets used for calculating the ratio in individual banks.

A possible reason why some SIBs continue to experience a shortage of high-quality liquid assets used in the calculation of the LCR in the conditions of a structural liquidity surplus may be the reduction of the maturities of liabilities of credit institutions. In the case of an increase in the shortage of HQLAs used in the calculation of the LCR and the number of banks with a shortage of high-quality liquid assets used in the calculation of the ratio, the Bank of Russia may consider raising the fees for irrevocable lines of credit in the future. The improvement of liquidity in other banks occurred against the backdrop of growth of HQLAs and a significant reduction in expected net cash outflow

(ENCO). The growth of HQLAs taken into account in the calculation of LCR was due to an increase in banks' investments in debt securities denominated in rubles issued by the Government of the Russian Federation, while a decrease in the expected cash outflow from financial institutions and individuals resulted in a decrease in ENCO. As a result, the average actual value of the LCR of other banks, calculated for analytical purposes, increased from 1 October 2017 to 1 April 2018 from 67.7% to 99.1%.

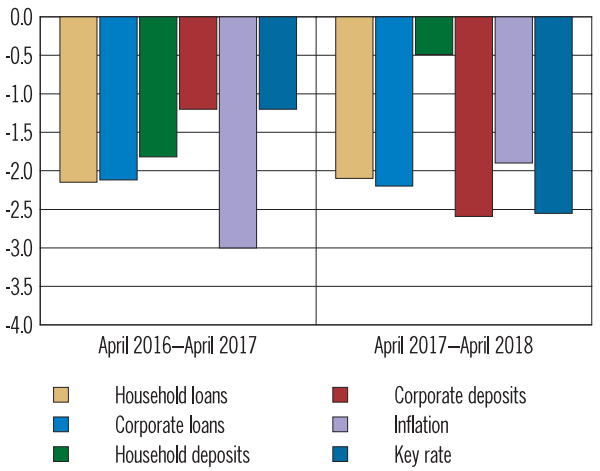
3.4. Interest Rate Risk of the Banking Sector

The gradual transition of the Bank of Russia to a neutral monetary policy and a slowdown in the growth rates of consumer prices create the conditions for the lowering of interest rates. This tendency is leading to an increase in the significance of interest rate risk for the banking sector. In the reporting period, the share of refinancing of loans at lower rates has grown. The share of short-term liabilities is growing along with the growth of long-term assets, which creates a risk of a decrease in net interest income if interest rates increase. Against the background of lower rates, the attractiveness of assets of the non-banking financial sector is increasing in comparison with bank deposits: in 2017, the growth of investments of individuals in investment life insurance and unit investment funds has reached 20% of the growth in household deposits in banks, which could force banks to raise deposit rates and become a factor in reducing the margin in the future.

In the situation of a gradual decline in the level of interest rates in the economy, banks may face a reduction in net interest income if passive rates, given competition in the market, decrease more slowly than active rates[23]. At the same time, global experience shows that slowing inflation and lowering interest rates do not necessarily lead to a decrease in net interest income, since their dynamics also depend on a multitude of other factors, including the conditions of the money market, the macroeconomic situation, the level of development of the banking system and financial

Figure 37

Change in inflation and ruble rates for new loans and deposits of individuals and legal entities (p.p.)



markets, and the quality of institutions (for more details, see Box 2).

Over the past three years, inflation and interest rates have been decreasing in the Russian economy. The consumer price index decreased by 14.5 p.p., to 2.4% from April 2015 to April 2018. The change in the yield of 10 year federal loan bonds for the same period was of -3.9 p.p. (to 7.1%). The level of ruble bank rates also dropped: over three years, the weighted average rate on new household loans decreased by 4.9 p.p.; for loans to legal entities, by 4.7 p.p.; for household deposits, by 2.1 p.p.; and for deposits of legal entities, by 4.0 p.p. One should note that during the past year lending rates in rubles declined faster than inflation.

The difference between the rates for household funds placed and attracted during a month decreased by 0.29 p.p. from 1 October 2017 to 1 April 2018. A trend towards margin reduction was typical for the banks of the top 30, while in other banks the margin recovered due to increased lending rates.

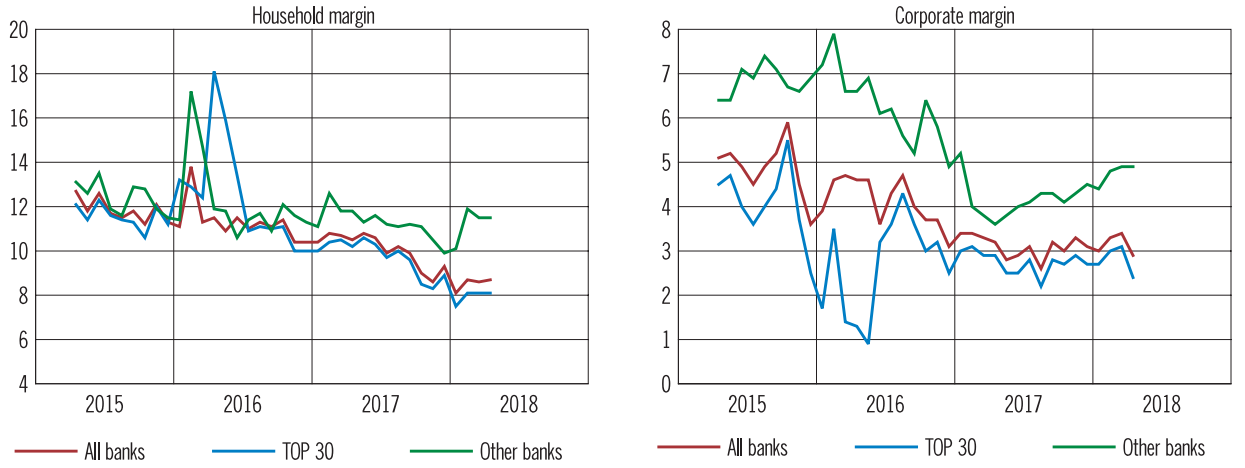
The margin on new loans and deposits of legal entities decreased slightly: -0.06 p.p. from 1 October 2017 to 1 April 2018.

The reduction of the spread on new loans and deposits indicates a possible reduction in net interest income in the future. At the same time, it is necessary to take into account the fact that the reduction of the spread in many respects reflects an improvement in the creditworthiness of borrowers and is a manifestation of a decrease in the cost of risk. Russian banks have not yet faced

[23] *Reduction of net interest income amid falling interest rates is also possible with stable interest margin due to a decrease in the profitability of interest-free liabilities (capital, current accounts).*

Figure 38

Dynamics of the difference in rates between new loans and deposits (p.p.)



a decrease in net interest income from operations with individuals. At the same time, in transactions with legal entities, the trend of reduction of interest income is noticeable: quarterly net interest income decreased from 388 billion rubles in Q1 2017 to 279 billion rubles in Q1 2018.

In general, the dynamics of net interest income remains stable (Figure 39). The ratio of net interest income from transactions with individuals and legal entities in the volume of deposits sensitive to changes in the interest rate increased from 0.94% to 1.07% in 2017, reaching the level of the beginning of 2016, which confirms the conclusion that the situation with net interest income of the banking sector remained favourable in the reporting period.

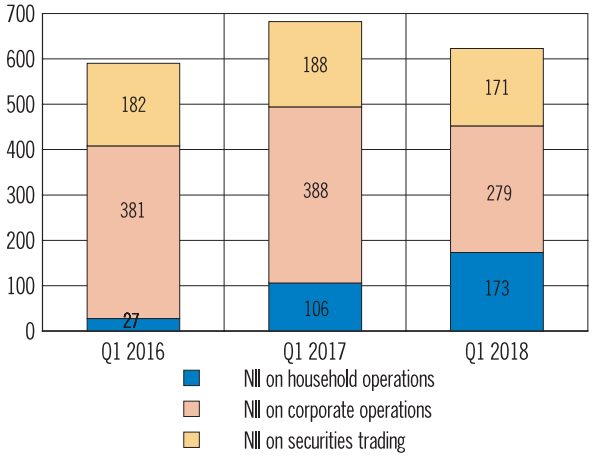
Besides the reduction of the spread of rates for new loans and deposits, interest rate risks of banks are related to the prevalence of 'optional' obligations and requirements. Household deposits with the possibility of additions and early withdrawal without losing a substantial portion of the interest are still widespread in the line of banking products. Similarly, refinancing mechanisms are developing in lending, and this trend is typical for operations with both individuals and legal entities.

During the year (from 1 February 2017 to 1 February 2018), a significant share of the loan portfolio was refinanced—57% of the fixed set of loan agreements in rubles with non-financial organisations of credit quality category I and II. The average rate for these loans decreased by 0.9 p.p., from 11.7% to 10.8%. The policy of banks regarding the refinancing of loans of non-financial organisations at lower rates is often rational, since the alternative is the client switching to another bank and the loss of not only interest income but also non-interest income from other services that the bank provides to this client (maintenance of settlement accounts, custody services, etc.). Nevertheless, given the reduction of interest rates, the refinancing of previously issued loans at lower rates may become an interest rate risk factor.

In terms of lending to individuals, the practice of refinancing is most typical for housing loans in view of their considerable term and volume. The share of housing loans (including mortgage loans) in the total amount of assets of the banking sector as of 1

Figure 39

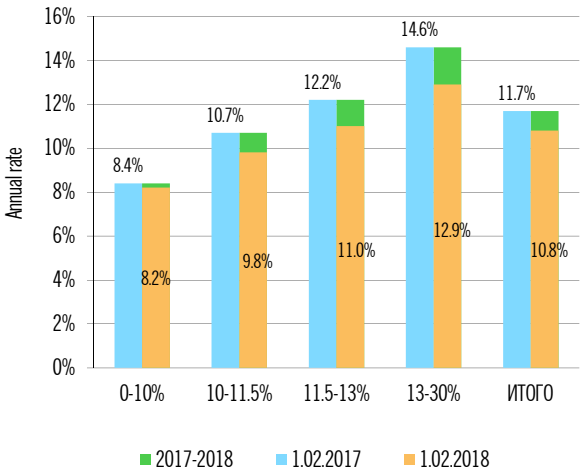
Dynamics of net interest income of the banking sector (RUB billion)



** Not including the data of banks undergoing the resolution through Deposit Insurance Agency and Banking Sector Consolidation Fund.*

Figure 40

Reduction of rates for a fixed set of loan agreements in rubles with non-financial companies from 1 February 2017 to 1 February 2018



January 2018 was 6.4%, while in the total volume of loans issued to individuals it was 44.2%.

Over the past three years, the rate of housing mortgage loans (HMLs) in rubles decreased by 2.73 p.p.[24], which became an incentive for many borrowers to apply to banks for refinancing of the loan at a lower rate. Credit institutions offer refinancing programmes both to the clients of other banks and its own borrowers. In conditions of competition in the mortgage lending market and the continued decline in interest rates in 2018, banks expect an increase in the share of refinancing of HMLs (in some cases, up to 50% of the HML portfolio).

The refinancing of mortgages will not have a significant adverse effect on the financial result and capital adequacy in the banking sector as a whole in the medium term, since, along with the decline in market rates for mortgages in recent years, there has been a reduction in the rates for bank liabilities. For example, for household deposits, the weighted average rates for all terms declined by 4.2 p.p. in the last three years. Thus, in recent years, there has even been a slight increase in the net interest margin on the mortgage. However, it is worth noting that, together with the gradual increase in the share of mortgages in the assets of banks, the risks associated with the difference in the maturities of assets and liabilities will increase too. Given this tendency, banks' exposure to interest rate risk may increase in the future as they transition to the phase of growth of interest rates.

In the case of stress, a rate fixed at a low level for a long-term HML against the background of increased rates on short-term liabilities may become a factor in the reduction of net interest income. Additional adverse impact may be exerted by a decrease in the credit quality of HMLs. In these conditions, a policy of increasing the maturities of liabilities (by attracting long-term deposits or issuing securitised products) is advisable for banks. In addition, banks' use of hedging instruments as the Russian market of interest rate derivatives develops may facilitate the limitation of potential consequences from the materialisation of interest rate risk.

One option for the natural hedging of interest rate risk given a significant share of short-term liabilities may be the formation of demand for lending to non-financial organisations at floating rates. A certain increase in demand for these instruments is already evident: the share of ruble loans with a floating rate in the corporate portfolio of the banking sector increased from 11% (1 February 2017) to 14% (1 February 2018). At the same time, to significantly reduce interest rate risk, it is necessary to take steps to increase this share in the future. However, it should be borne in mind that the sale of such loan products may be associated with interest rate risk for the borrower itself, so in order to eliminate the risk of deterioration of its financial position, the bank needs to analyse the sensitivity of the borrower to a potential increase in interest rates.

Measures for improving the effectiveness of interest rate risk management should also include the development of methods for assessing interest rate risk, in particular:

1. Use of the interest rate risk assessment metrics recommended by the BCBS[25].

2. Regular validation of interest rate risk assessment models.

3. Improvement of approaches to stress testing of interest rate and credit risks.

[24] *According to the data of 15 banks with the largest portfolio of mortgage loans.*

[25] *Interest rate risk in the banking book—Basel Committee on Banking Supervision, April 2016.*

Box 3. Disinflation and the interest margin of banks: international practices

The level of marginality of the banking sector depends on various factors, which include the conditions of the financial market, the state of the banking sector, and the macroeconomic situation in a specific country.

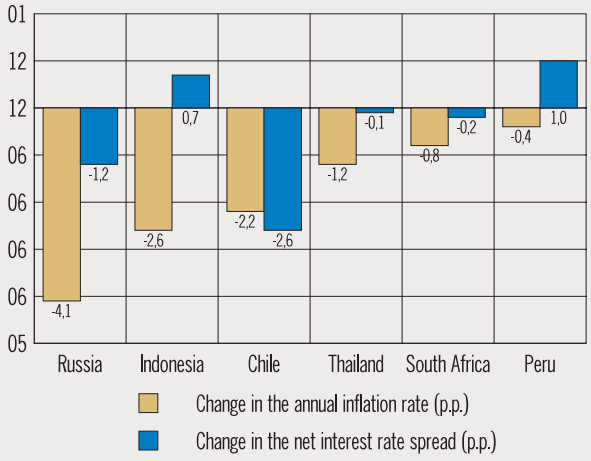
The amount of the net interest margin[1] of banks depends on the level of development of the economy and the financial system. A higher level of competition in the banking sector contributes to greater efficiency of financial markets and the reduction of net interest margin. The high quality of institutions leads to a decrease in transaction costs in financial markets. Macroeconomic factors are also of great importance. The acceleration of inflation, which indicates an increase in uncertainty, leads to the expansion of the net interest spread.

Analysis of empirical data on developing countries for 2015–2017, which registered a decrease in inflation during this period, shows that the change in the rate of price growth was accompanied by various dynamics of net interest spread[2]. In Indonesia and Peru, the change of these indicators was in opposite directions, in Chile and Russia, in the same direction, and in Thailand and South Africa there was a lack of significant change in the spread between credit and deposit rates in response to the change in the level of inflation.

The study of Claessens, Coleman, and Donelly (2017)[3], based on a sample of 47 developed and developing countries over the period of 2005–2013, shows that, overall, reduction of interest rates leads to a decrease in the net interest margin of the banks. This negative effect is amplified in countries with lower long-term rates in the markets, especially during a period of their decline. The authors explain this by the fact that in the case of the softening of financial conditions banks reduce lending rates more actively than deposit rates, so the initially high level of long-term rates will ensure stability in the banking sector and enable receipt of income from the transformation of assets by maturity (through the funding of long-term assets with short-term liabilities).

Figure 41

Change in the rate of inflation and net interest spread in developing countries in 2015–2017 (p.p.)



Source: Bloomberg, IMF International Financial Statistics (IFS).

The dependence of the reaction of the net interest margin on the general interest rate situation is confirmed in the study of Kohlscheen, Murcia, and Contreras (2018)[4] conducted on a sample of countries with emerging markets[5] in 2000–2014. The paper shows that the inflation rate and the net interest margin of the banks are inversely correlated. The policy of monetary authorities has more influence on the dynamics of short-term interest rates, which reflect the level of funding costs of the banking sector. The growth of short-term interest rates leads to the decrease in the net interest income of banks. At the same time, the growth of long-term interest rates has a positive impact on the dynamics of the net interest margin and profitability indicators of the banking sector due to growth in income from the provision of loans.

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[1] *The share of net interest income in the total value of interest-bearing assets of the bank.*

[2] *The net interest spread is the difference between the indicative lending (IMF Lending Rate) and deposit (IMF Deposit Rate) interest rates calculated by the IMF for different countries. Lending rates reflect the conditions for the provision of short-term and medium-term loans to the private sector. To calculate the net interest spread in 2017 for Thailand, averaged data for 11 months is used; for the Russian Federation, for 10 months; for Peru, for 4 months.*

[3] *Claessens S., Coleman N., Donelly M. «Low-For-Long» Interest Rates and Banks' Interest Margins and Profitability: Cross-Country Evidence // International Finance Discussion Papers. № 1197. 2017. URL: https://www.federalreserve.gov/econresdata/ifdp/2017/files/ifdp1197.pdf.*

[4] *Kohlscheen E., Murcia A., Contreras J. Determinants of Bank Profitability in Emerging Markets // BIS Working Papers. 2018. No. 686. URL: https://www.bis.org/publ/work686.pdf.*

[5] *Brazil, Chile, China, Colombia, Czech Republic, Hungary, India, Indonesia, Israel, South Korea, Mexico, Malaysia, Peru, Philippines, Poland, Russia, South Africa, Thailand, and Turkey.*

4. SYSTEMIC RISKS OF NON-BANK FINANCIAL INSTITUTIONS

4.1. Risks of Insurance Organisations

The risks of insurance companies continued to be concentrated in the segment of compulsory motor third party liability insurance in 2017. The positive results for other types of activity compensated for compulsory motor third party liability insurance (OSAGO) in the aggregate results of insurance activities: the combined loss ratio for insurance other than life insurance was of 90.5% (89.7% in 2016). The intensive development of life insurance through investment products continued. The reinsurance market changed due to the adaptation of insurers to working with the Russian National Reinsurance Company (RNRC): insurers brought their operations into line with the norms for mandatory cession, while there was an increase in the share of self-retention.

The overall increase in the insurance portfolio (+8.3% compared to 2016) was ensured by the intensive growth of life insurance (+54%). The number of financial groups interested in the development of this area continued to grow: in Q1 2018, three large companies announced the creation of subsidiary life insurance companies[1]. In 2017, investment life insurance (ILI) products accounted for the greater part of the increase in the fees of Russian life insurers. According to the companies' data, the average yield of ILI in 2017 was in the range of 6% to 9%, with individual results varying greatly depending on the chosen investment strategy. One of the key issues was the quality of disclosure of information to the insured by intermediary credit institutions. In order to minimise the risks of improper provision of information to policyholders by a self-regulatory organisation (SRO) uniting insurance companies, in accordance with the requirements established by the Bank of Russia[2], a core standard is being developed for the protection of the rights and interests of individuals and legal entities receiving financial services provided by the members of self-regulatory organisations uniting insurance companies.

Life insurers in foreign practice traditionally act as institutional investors which create an inflow of medium-term and long-term funds into the economy. The Bank of Russia initiated a public discussion of proposals for the further development of this market[3], including the introduction of unit-linked life insurance. Taking into account the volume and maturity of the assets, the actions of life insurers are of fundamental importance from the viewpoint of preventing procyclical effects in financial markets. The Bank of Russia has studied foreign approaches to the use of countercyclical mechanisms in the regulation of insurers (Appendix 2).

The volume of insurance premiums for insurance other than life insurance decreased slightly (–1.8% compared to 2016). Insurance of ground vehicles besides railway vehicles (motor hull) and property insurance of legal entities accounted for the largest share in the reduction of premiums. At the same time, motor hull insurance and property insurance compensated for OSAGO in the overall result of insurance activity (Figure 42) due to the low level of the combined loss ratio (70.3% and 63.8%, respectively, taking into account the balance of other income and expenses).

The combined loss ratio of OSAGO (taking into account the balance of other income and expenses) as of 31 December 2017 was 106.9% (102.6% as of 31 December 2016). Most regions with high intensity of judicial practice in OSAGO showed

[1] *As of the date of writing of this review, one of these insurers had undergone licencing.*

[2] *Bank of Russia Ordinance No. 4067U, dated 12 July 2017, 'On the List of Core Standards to Be Developed by Self-Regulatory Organisations in the Financial Market Uniting Insurance Organisations and Insurance Brokers, on the Requirements for Their Content, and on the List of Operations (Scope of Activities) of Insurance Organisations and Insurance Brokers in the Financial Market Which Are Subject to Standardisation.'*

[3] *Report for public consultations 'Proposals for the development of life insurance in the Russian Federation' (http://www.cbr.ru/analytics/ppc/Consultation_Paper_171 003_02.pdf).*

Figure 42

Contribution of accounting groups (types of insurance) to the technical result of insurance companies as of 31 December 2017 and 31 December 2016

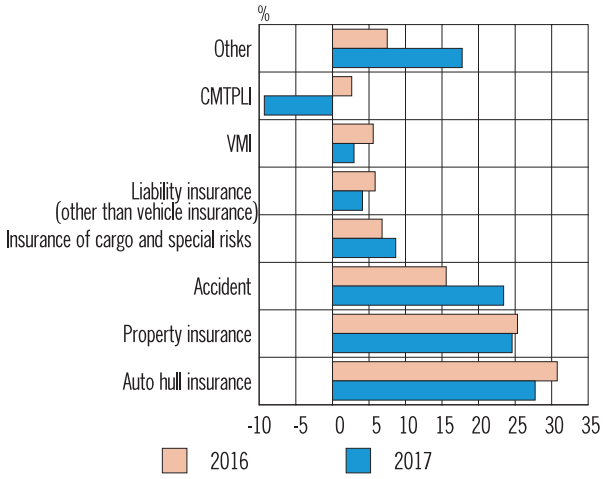
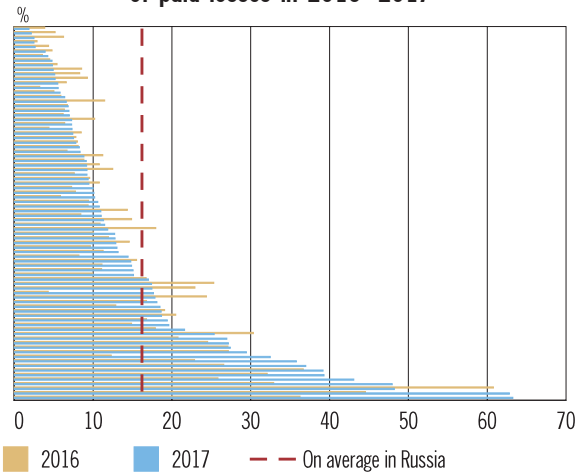


Figure 43

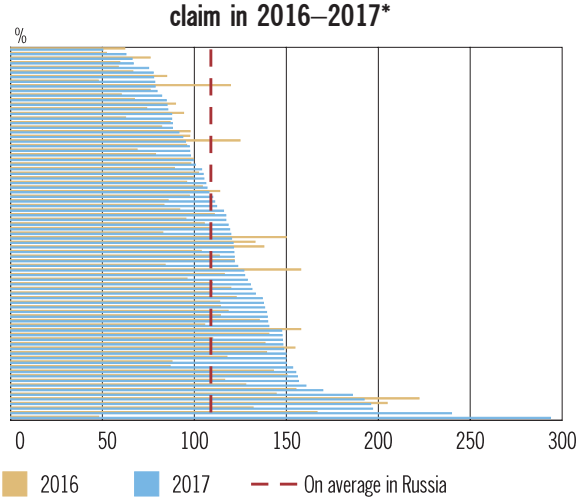
Breakdown of regions of the Russian Federation by the share of court-ordered payments in the amount of paid losses in 2016–2017*



** Calculated based on the data of the Russian Association of Motor Insurers.*

Figure 44

Breakdown of regions of the Russian Federation by the ratio of judicial expenses to the amount of the primary claim in 2016–2017*



** Calculated based on the data of the Russian Association of Motor Insurers.*

further growth of court-ordered payments and expenses (Figure 43). According to the Russian Association of Motor Insurers (RAMI) for 2017, in 29 regions, the share of court-ordered payments in the total amount of paid losses exceeded 15%, including nine regions where more than a third of losses were paid pursuant to a court decision. The volume of overhead court costs, mainly received by intermediaries, for the Russian Federation as a whole exceeded the amount of the primary claim by 9%, and in 15 regions, by more than 50% (Figure 44).

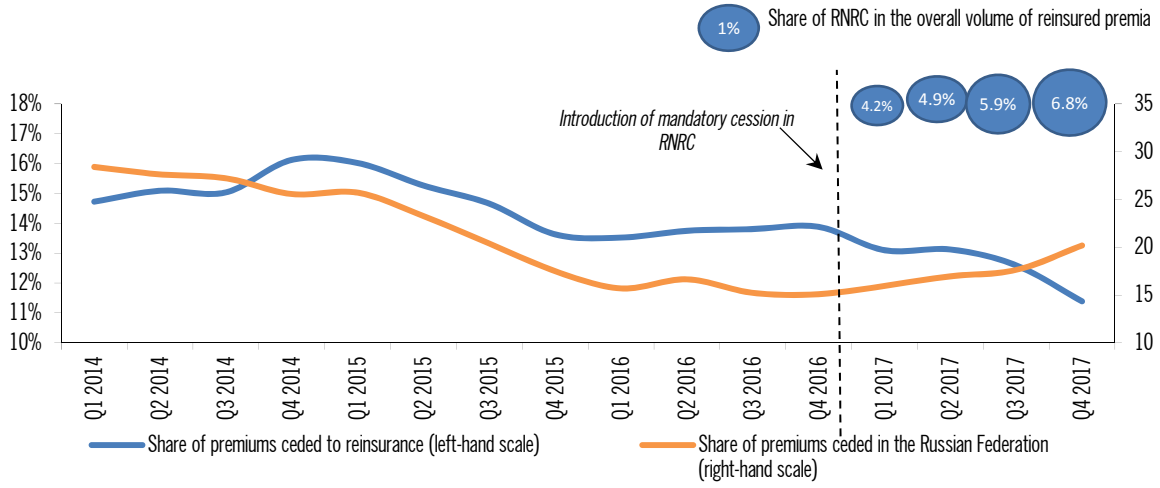
The activities of the former segment leader, Rosgosstrakh, which was included in the perimeter of banking group resolution, significantly influenced the average market results. Due to the sharp decline in the share of Rosgosstrakh in the market of OSAGO (from 35.2% in 2015 to 14% in 2017), the other market participants are assuming significant volumes of liability, including in difficult regions.

The priority of settlement of losses in kind, introduced to exclude unscrupulous legal intermediaries from interaction between insurers and victims, was the main 'non-tariff' measure for the normalisation of the situation in this segment. For example, for a number of large insurance companies in difficult regions, the share of in-kind compensation exceeds 50%; in the Russian Federation as a whole, it amounts to about 10%. Actions aimed at combating insurance fraud should also help to normalise the situation in OSAGO segment: the issue of a decision of the Plenum of the Supreme Court that defines the concept of fraud in judicial practice, the start of collection of issue-related reporting by RAMI, and the further coordination of the work of the Bank of Russia and law enforcement agencies.

The mandatory sale of policies in electronic form, including in the framework of the RAMI E-Garant system, ensured support for the accessibility of policies in unfavourable market conditions. In 2017, more than 7.8 million OSAGO contracts were concluded in electronic form, or 20% of the total number of OSAGO contracts (0.3 million contracts, or 0.9%, in 2016). Also in November 2017, a decision was made to extend the validity of the 'Single RAMI agent' system, which distributes

Figure 45

Share of reinsurance and RNRC's share of incoming reinsurance



policies in difficult regions through insurers acting as agents of all participating companies.

At the end of 2017, RNRC ranked first among Russian insurers in terms of incoming reinsurance. As a result of its entry into the market, the share of insurance premiums other than life insurance ceded for reinsurance in the Russian Federation increased to 20.2% (15.1% at the end of 2016) (Figure 45). At the same time, the trend towards an overall decrease in the share of reinsurance persisted due to the increase in self-retention by direct insurers and a decrease in premiums of direct property insurance (-4.9%).

In accordance with the legislative provision on compulsory 10% cession during 2017, direct insurers increased volumes of operations with RNRC: the share of premiums ceded for reinsurance to the state reinsurer increased from 4.2% in the first quarter of 2017 to 6.8% at the end of 2017. At the same time, this indicator is expected to grow further in 2018 due to the increase in the volume of premiums on newly concluded obligatory contracts[4] and the planned intensification of the Bank of Russia's supervisory oversight of insurers' execution of the requirement for mandatory cession of 10% of reinsured liabilities to RNRC.

International operations still have a small share in the portfolio of RNRC: as of the end of 2017, the volume of premiums received from abroad amounted to 205 million rubles, or 2.7% of the total volume of premiums. The entry of RNRC into a number of large foreign markets is limited by a credit rating coinciding with the sovereign rating of the Russian Federation. However, the reinsurer is actively building relationships with alternative partners: RNRC has received permission from national regulators to conduct operations with counterparties from China, Egypt, South Korea, and India and has also signed the Memorandum on interaction and mutual understanding of the BRICS countries in the field of insurance and reinsurance.

In 2017, RNRC showed a small net profit (88.7 million rubles) due to the materialisation of three major losses, the most significant of which amounted to 2.6 billion rubles. At the same time, the loss from reinsurance operations was balanced due to the results of investment activities. The performance of the RNRC was in line with the experience of the state reinsurers of the BRICS countries, which also have an increased risk of concentration with leading positions in national markets.

4.2. Risks of NPFs

In 2017, the following main trends in investment activity were observed in the NPF market: a decrease in profitability due to lower interest rates and an increase in investments in government stock. To make management of pension savings more effective, a law was adopted on the fixed part of remuneration of NPFs and fiduciary responsibility to insured persons.

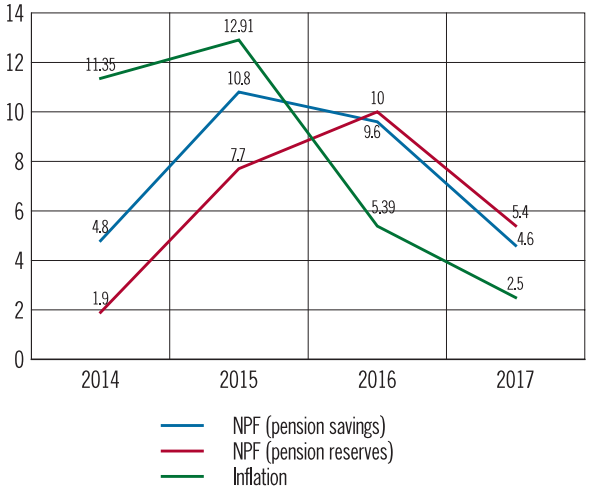
[4] *The obligation to cede to RNRC did not apply to contracts concluded with other reinsurers before 1 January 2017.*

As a result of the decrease in interest rates in 2017, the average weighted investment return of all NPFs as of the end of the year turned out to be significantly lower compared to 2016, but higher than inflation, amounting to 4.6% per annum for the portfolio of pension savings (PS) and 5.4% per annum for pension reserves (PR) (with inflation of 2.5%). 4 of 38 NPFs showed negative return in the pension savings market, and 6 out of 62 NPFs showed negative return in the pension reserve market. Given the general trend towards lower interest rates and the time to maturity of fixed income transactions in NPF portfolios (average bond portfolio = 2.9 years, deposits = 0.7 years), in the medium term, NPFs will face the need to reinvest the funds released as a result of repayment in instruments with a lower yield.

To improve the effectiveness of the management of pension savings, Federal Law No. 49FZ[5] was adopted in March 2018, according to which funds will have fiduciary responsibility to insured persons. For example, the purchase and sale of assets by the fund should be carried out on the best terms available to NPFs (including the risk to expected return ratio) at the time of the transaction. Otherwise, the NPF will be obliged to replenish the amount of pension savings and pension reserves in the amount of the reduction of funds or the amount of lost income from its own funds.

Figure 46

Dynamics of NPF yield (%)



[5] *Federal Law No. 49FZ, dated 7 March 2018, 'On Amending Certain Legislative Acts of the Russian Federation Regarding the Regulation of Non-Governmental Pension Funds.'*

Furthermore, in addition to the variable part of the NPF's remuneration (up to 15% of the annual investment income), a fixed part was introduced that does not depend on the results of management and amounts to 0.75% of the average value of net assets for the reporting year. The previous system of NPF remuneration had a number of shortcomings:

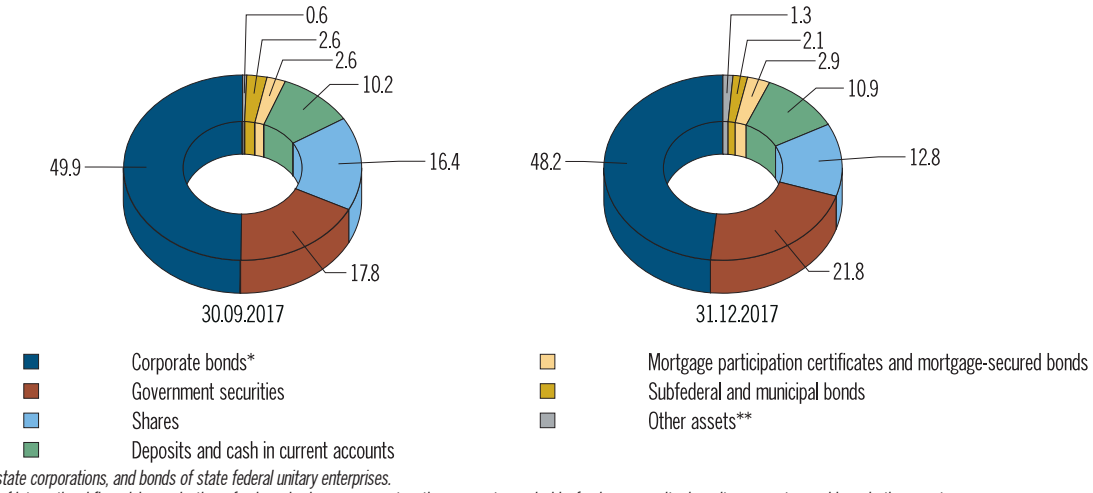
1. *The system reduced the motivation of NPFs to invest pension savings in long-term assets.* In order to obtain the minimum guaranteed income for the year and to cover current expenses, NPFs invested pension savings in short-term instruments, mainly those that are not revalued when market conditions change (deposits in commercial banks).
2. *The system was not transparent for NPF clients.* Not all types of expenses paid from pension savings (income from their investment) were statutorily regulated and restricted. The maximum total amount of such additional costs of the management of pension funds was not defined.

The change in the remuneration system stipulates that the additional expenses that are currently paid for from the pension savings funds (income from their investment) will be paid from the NPF's own funds. In addition, if, based on the results of every five years of operation of the contract with an insured person, the income accrued by the fund does not cover the payment of the fixed part of its remuneration, the fund will be obliged to compensate for the difference from its own funds. Thus, the new system will contribute to the extension of NPFs' investment horizon and will increase the transparency of the management of pension savings for insured persons.

As of the end of the year, there was a high concentration of investments in government stock in the pension savings portfolio of NPFs. For the fourth quarter of 2017, the share of government stock increased by 4 p.p., to 22%, owing among other things to a reduction of investments in shares by 3 p.p., to 13%. In the portfolio of pension reserves, the share of government stock increased by 1 p.p, to 9%, and the share of shares decreased by 2 p.p., to 20%. At the same time, without taking into account government stock, the concentration of pension fund investments by issuers decreased in 2017: the share of the top 5 largest assets in the

Figure 47

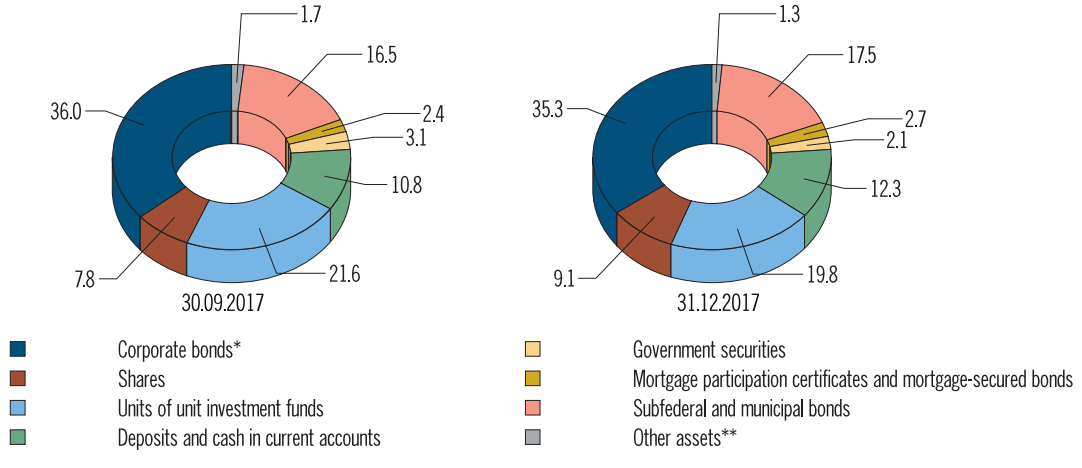
Structure of assets (pension savings)



** Including bonds of state corporations, and bonds of state federal unitary enterprises.*
*** Including securities of international financial organizations, funds on brokerage accounts, other accounts receivable, funds on security deposits, accounts payable and other assets..*

Figure 48

Structure of assets (pension reserves)



** Including bonds of state corporations, and bonds of state federal unitary enterprises.*
*** Including securities of international financial organizations, funds on brokerage accounts, other accounts receivable, funds on security deposits, accounts payable and other assets..*

portfolio of pension savings decreased by 5 p.p., to 20%, and in the portfolio of pension reserves it decreased by 2 p.p., to 19%.

The share of non-rated assets in the pension savings portfolio in the fourth quarter of 2017 increased by 3 p.p., to 9%, which was mainly due to the withdrawal of the ratings of mortgage participation certificates (due to the termination of the assignment of this type of ratings by Expert RA JSC). However, the above events did not affect the portfolio of pension reserves: the share of assets without a rating decreased by 1 p.p. to 35%.

In order to reduce the risks of concentration and interrelatedness of NPF pension fund investments, the Bank of Russia has prepared a draft ordinance[6] in accordance with which funds will have to reduce the share of investments of pension savings in the assets of a group of related entities from 15% to

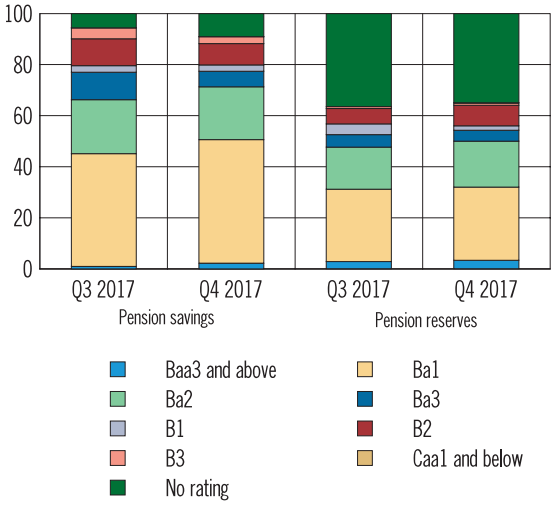
[6] *Draft Bank of Russia Ordinance 'On Amending Bank of Russia Regulation No. 580P, Dated 1 March 2017, «On Setting Additional Limitations on the Investment of Pension Savings of a Non-Governmental Pension Fund Providing Compulsory Pension Insurance, Cases Where Management Companies Acting as Trustees for Pension Savings May Enter into Repo Agreements, and Requirements Aimed at Mitigating Risks, in Compliance with Which Such Management Company May Enter into Agreements Which Are Derivative Financial Instruments, and Additional Requirements for Credit Institutions Which Deposit Pension Savings and Savings for Housing Provision for Servicemen, and Additional Requirements Which Management Companies Must Meet during the Term of a Trust Agreement Related to Pension Savings Management for the Funded Pension.»'*

10%. It also proposes limiting the share of shares of one issuer to 10%, with a gradual decrease to 5% within three years. Furthermore, in order to increase the transparency of operation of the funds, a draft ordinance on the procedure for disclosure of information by NPFs has been developed, including the disclosure of the composition of investment portfolios.

Recently, there has been a trend towards the consolidation of the sector in the mandatory pension insurance (MPI) market. In 2017, the share of the top 10 NPFs in terms of pension savings increased from 84% to 92%, which is due to the merger of a number of NPFs. In 2018, the consolidation of the pension sector will continue: currently, the mergers of certain large funds are undergoing approval by the Federal Antimonopoly Service. Furthermore, the second stage of corporatisation in the segment of non-governmental pension provision will be an additional driver of market concentration growth. In accordance with Federal Law No. 410 FZ[7], funds that are non-profit organisations and do not operate as an MPI insurer are subject to transformation into joint-stock pension funds or liquidation before the end of 2018. In total, as of the end of 2017, there are 17 NPFs (with pension reserves in the amount of 838 billion rubles) which are to undergo the procedure of corporatisation.

Figure 49

Asset structure by credit ratings



[7] *Federal Law No. 410FZ, dated 28 December 2013, 'On Amending the Federal Law 'On Non-Governmental Pension Funds' and Certain Legislative Acts of the Russian Federation.'*

Box 4. Structure and risks of the shadow banking system in Russia

The Bank of Russia took part in the seventh annual monitoring of the shadow banking system[1] (SBS) for 2016 conducted by the Financial Stability Board (FSB). The study involved 29 jurisdictions, accounting for about 80% of global GDP. In the global SBS, the assets of entities classified by five economic functions (EF) totalled $ 43.5 trillion by the end of 2016[2]. In Russia, the size of SBS assets increased over 2016 by 36 billion rubles, or 1 p.p., and amounted to 4,465 billion rubles ($ 76.1 billion, 0.17% of the global SBS, 3% of the Russian financial system). As of the end of 2017, the size of assets, according to preliminary data, had grown by 5%, to 4.7 trillion rubles. The structure of the Russian SBS remains stable.

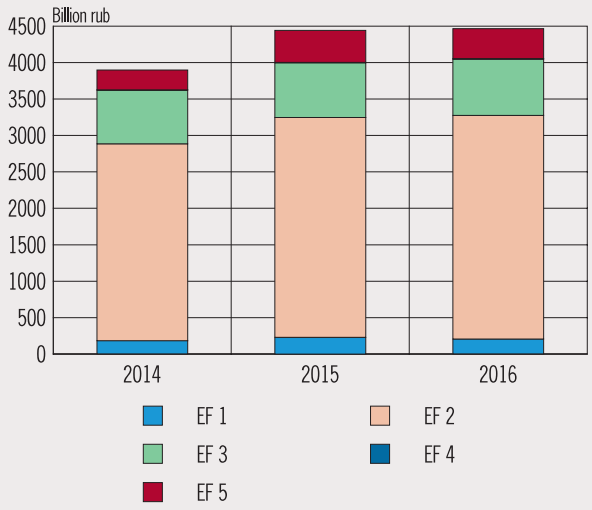
The first economic function (EF-1) includes the subjects of the collective investment market investing in debt instruments and subject to the risk of a sharp outflow of capital (for example, bond mutual investment funds). In the structure of the global SBS, EF-1 is the largest category, with 74% ($ 32.3 trillion[3]) of the total assets of the SBS. In order to identify the risks of financial stability from EF-1 entities, FSB conducts an analysis of the behaviour patterns of institutional investors during market shocks and the impact of mass outflow of investors from investment funds on market interest rates and liquidity.

In Russia, in 2016–2017, there is increased demand from private investors for units of mutual investment funds investing in bonds, caused by a decrease in the rates on bank deposits. As a result, the volume of EF-1 assets in Russia reached 334 billion rubles, having increased by 63% in 2017. Nevertheless, the subjects of EF-1 (7% in the structure of the Russian SBS) do not pose risks to financial stability due to the limited impact on the dynamics of the value of financial instruments in the open market if the assets from funds are sold in the case of a massive outflow of customers.

The second economic function (EF-2) is represented by financial companies that provide loans through short-term funding (leasing, factoring companies, MFOs, consumer credit cooperatives and pawnshops). Organisations classified as EF-2, in essence, are the closest to banks and can be a source of instability for the financial system through the acceptance of increased risks of transformation of terms and liquidity, as well as leverage. In the global SBS, the EF-2 segment (assets of $ 2.9 trillion, or 7% in the SBS structure) is characterised by rather low risk indicators and does not pose a threat to financial stability. In Russia, the segment of EF-2, with assets of 3,214 billion rubles as of the end of 2017, has the largest share in the SBS – 68%, of which leasing organisations account for 54% (2,600 billion rubles[4]). Currently, leasing companies are not subject to regulation and supervision by the Bank of Russia. At the same time, it should be noted that changes in the regulation of leasing activities in connection with the reform of the sector are under discussion[5]. The reform involves the creation of a state register of leasing companies and the introduction of a form of market control through self-regulation with limited powers of the Bank of Russia. In order to increase the transparency of the market, there are plans to transition leasing companies to industry accounting standards (close to IFRS) with statutory audit and a single chart of accounts.

Figure 50

Dynamics of the amount of SBS assets in Russia



The third economic function (EF-3) includes organisations that carry out intermediary activities in financial markets through short-term funding or funding

[1] *In accordance with the FSB methodology, the parallel banking system includes organisations that act as credit intermediaries outside the regulated banking system.*

[2] *The FSB report on the SBS for 2016 was published on 5 March 2018.*

[3] *Hereinafter, the assets of entities classified in the global SBS by economic functions are listed as of the end of 2016.*

[4] *According to estimates as of the date of writing hereof.*

[5] *Draft Federal Law 'On Amending Certain Legislative Acts of the Russian Federation Regarding the Regulation of Leasing Companies' (bill ID: 02/04/02–17/00 062 230).*

from client funds, in particular, broker and dealer organisations. In the global SBS, the segment of EF-3 (assets of $ 3.8 trillion, 9% in the structure of SBS) is characterised by a fairly high level of leverage[6] (more than 11), which is due to the peculiarities of the business model of brokers. At the same time, further leverage growth may negatively affect the sector's stability in the case of deterioration in market conditions and outflow of client funds. In Russia, EF-3 is the second largest in the SBS (assets of 709 billion rubles in 2017, 15% in the structure of the SBS). In order to limit the risks associated with brokerage activities, the Bank of Russia issued an ordinance[7] stating that brokers using client funds for their own benefit are required to calculate LCR (equivalent to the N27 ratio for credit institutions). In 2018, there are plans to introduce a threshold value for this ratio, which will help to maintain the liquidity position of brokers at a level that ensures uninterrupted performance of their obligations to customers.

The fourth economic function (EF-4) includes insurance organisations that specialise in providing financial guarantees for lending. In the global SBS, the entities classified as EF-4 (assets of $ 0.2 trillion, 0.4% in the structure of the SBS) may pose a threat to financial stability due to the risks of excessive leverage in the financial system. According to the FSB, the size of the assets of EF-4 entities and their impact on the financial system can be significantly underestimated because their obligations under financial guarantees are reflected on off-balance accounts. In Russia, and in the world as a whole, EF-4 has an insignificant share in the structure of the SBS (assets of 9 billion rubles in 2017, 0.2% in the structure of the SBS). At the moment, financial guarantee activities in Russia are poorly developed (represented exclusively by insurers that provide guarantees for export/import loans) and do not pose risks for the financial system.

EF-5 is represented by entities engaged in lending and funding of financial companies through the mechanism of securitisation of various types of assets. The key risk of the EF-5 segment (assets of $ 4.3 trillion, 10% in the structure of the SBS) for the global SBS is the growth of credit intermediation (financial leverage) in the economy. In Russia, EF-5 is represented by mortgage-backed securities and mortgage participation certificates (MPC) and represents 9% (427 billion rubles as of 2017) of the total assets of the SBS. In 2016–2017, the market of securitisation of the mortgage portfolios of Russian banks has undergone changes related to the implementation of the 'MBS Factory' project operated by JSC DOM.RF. Taking into account the potential systemic risks (an increase in financial leverage and quasi-public debt obligations) associated with the operation of the 'MBS Factory' project and the increase in the volume of the securitisation market, on the instructions of the National Council for Financial Stability, an interdepartmental working group was set up in 2016 under the Bank of Russia for the monitoring of potential risks in the activities of JSC DOM.RF.

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[6] The leverage ratio is calculated as the ratio of total assets to capital.

[7] Bank of Russia Ordinance No. 4402U, dated 6 June 2017, 'On the Requirements for Brokerage Activity Regarding Calculation of the Liquidity Coverage Ratio When Broker's Customers Provide the Right to Use Their Cash Funds for the Broker's Benefit.'

5. BANK OF RUSSIA MACROPRUDENTIAL POLICY

5.1. Assessment of the Current Credit Cycle Phase and Bank of Russia's Measures to Limit Systemic Risks

On 26 March 2018, the Bank of Russia Board of Directors decided to keep the value of the national countercyclical capital buffer at the level of zero percent. Growth in lending is heterogeneous in various segments: consumer lending shows an acceleration in growth rates, while the rate of growth of the debt of non-financial organisations remains moderate. In order to limit the systemic risks of unsecured consumer lending and maintain high standards of mortgage lending, the Bank of Russia has set increased risk ratios.

Due to the procyclical nature of the dynamics of credit risks, central banks conduct countercyclical prudential policy to limit the accumulation of systemic risks during credit boom periods and avoid 'credit contraction' during periods of economic crisis. To carry out this kind of policy, a countercyclical capital buffer may be applied to banks' capital adequacy requirements (the 'countercyclical capital buffer').

A positive countercyclical capital buffer can be established during periods of accelerated growth relative to the overall economic lending growth dynamics, when it is associated with a decrease in credit risk assessments in the banking sector. At the same time, such periods are often accompanied by an increase in the profitability of banks, which makes it possible to form Tier II capital through profit. Banks whose capital stock (minus the capital buffer) is less than the allowable regulatory level are subject to a restriction on profit distribution. The profit of such banks remains in retained earnings and forms a capital buffer to cover future losses. During periods of a downward phase of the credit cycle, characterised by the materialisation of credit risks, the level of the countercyclical capital buffer can be lowered to zero. This allows banks to use the accumulated capital buffer to cover losses. By using the countercyclical capital buffer, countercyclical capital adequacy dynamics are achieved which contribute to the stability of the banking system and to decreased sensitivity of the credit activity of banks to business cycles and the softening of the 'credit contraction' process. The countercyclical capital buffer is primarily used to increase the stability of the banking system through the accumulation of a capital buffer by banks, and only secondarily as an instrument of influence on credit activity.

The decision to establish a positive countercyclical capital buffer is based on a set of indicators, including those characterising the phase of the credit cycle. To assess the phase of the credit cycle, as a rule, the approach of the Basel Committee on Banking Supervision based on the calculation of the credit-to-GDP gap is used[1]. Credit activity in Russia, as assessed by this indicator, is below its long-term level. The value of the credit-to-GDP gap in its broad definition[2] from 1 October 2017 to 1 April 2018 decreased by 0.6, to –10.4 p.p., and in the narrow definition[3] it increased by 0.2, to 7.3 p.p. The insignificant change in the values of the credit-to-GDP gap is due to the fact that the rates of growth of the debt of the private non-financial sector of the economy are currently comparable with the growth rates of nominal GDP.

Alternative indicators characterising the phase of the credit cycle do not indicate the need to establish a non-zero value of the national countercyclical capital buffer either. The model of early warning of the accumulation of systemic risks indicates a lack

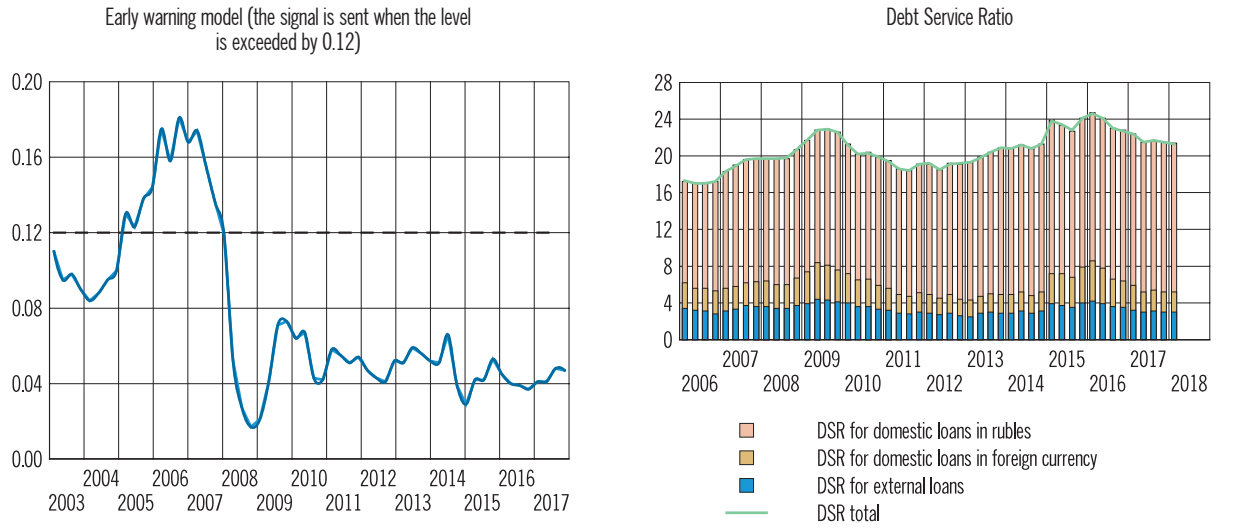
[1] *The credit-to-GDP gap is calculated as the deviation of the 'loans to GDP' ratio from its long-term trend.*

[2] *The credit-to-GDP gap in its broad sense takes into account the debt of individuals to banks and the internal and external debt of non-financial organisations, inter alia, under debt securities.*

[3] *The credit-to-GDP gap in its narrow sense takes into account the debt of individuals and non-financial organisations only to credit institutions that are residents of the Russian Federation.*

Figure 51

Alternative models for determining the phase of the credit cycle



of redundancy in the credit supply (Figure 51)4. The value of the debt service ratio of the private sector is gradually declining mainly due to a decrease in the level of the interest rate on domestic loans to the economy.

The phase of the credit cycle can also be estimated based on the growth rate of loan indebtedness. In the Russian financial market, credit activity in various segments is heterogeneous: recovery growth in the segment of lending to non-financial organisations and accelerated growth in the retail lending segment.

In conditions when the growth of lending activity in different segments is heterogeneous, in order to accumulate a capital buffer in rapidly growing segments, higher risk ratios for the calculation of capital adequacy requirements ('risk ratios') may be used. Higher risk ratios, other things being equal, reduce the value of capital adequacy requirements of the banks, thus limiting credit activity to a greater extent than the countercyclical capital buffer. Bank of Russia has experience in using increased risk ratios in such segments as, for example, unsecured consumer lending and mortgage lending.

The last time the Bank of Russia revised the scale of risk ratios in 2017 in the context of lower interest rates in the economy (from 1 March 2017). These measures, the reduction of the Bank of

Figure 52

Structure of issued unsecured consumer loans (%)

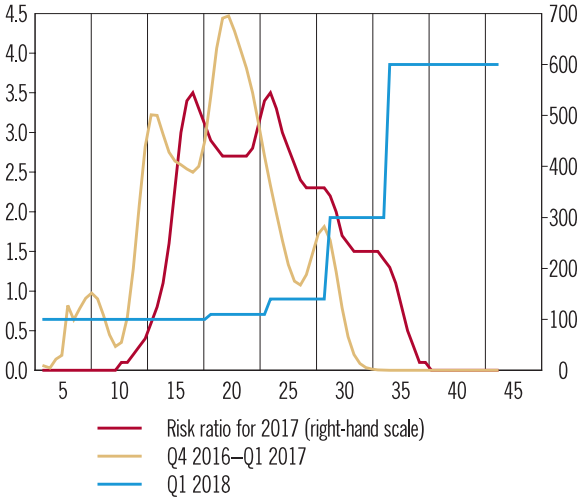
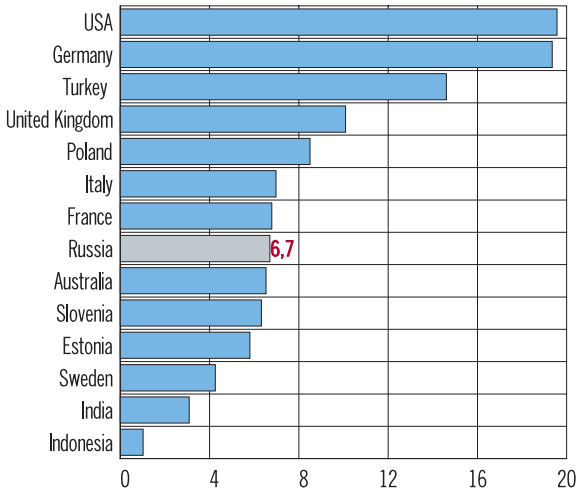


Figure 53

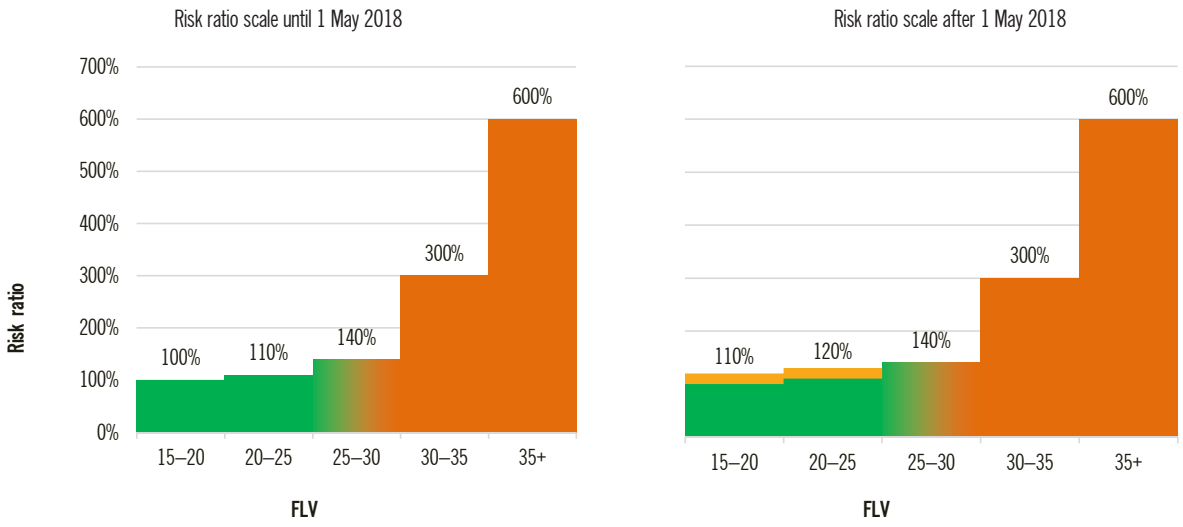
Debt under unsecured consumer loans (% of GDP)



[4] *A detailed description of the construction of a model of early warning and calculation of the debt service ratio can be found in the report 'On the National Countercyclical Capital Buffer' (December 2016) on the Bank of Russia's website in the section 'Information and Analytical Materials/Financial Stability/National Countercyclical Capital Buffer.'*

Figure 54

Risk ratio scale for consumer loans



Russia key rate, and the restriction on the threshold of the effective interest rate in accordance with Federal Law No. 353FZ, dated 21 December 2013, 'On Consumer Loans' led to a decrease in the share of loans extended with an effective interest rate over 30%, from 20.6% to 4.4% (Figure 52)[5].

Currently, there is a resurgence in the active growth of unsecured consumer loans against the background of a decline in the overall level of rates. Data from bank surveys indicates that in 2018 the rate of growth of indebtedness will continue to increase. In conditions of faster growth of debt relative to income of the population, the debt burden of the population, which is already at a relatively high level compared to other countries, is increasing (Figure 53). Taking into account the combination of these factors, on 23 March 2018, the Bank of Russia Board of Directors approved a draft ordinance establishing increased risk ratios for consumer loans with an effective interest rate from 15% to 25% starting 1 May 2018 (Figure 54). Maintaining the scale of risk ratios at the previous level would mean weakening regulatory requirements, since, in the context of the lower cost of borrowed funds of credit institutions, the same level of effective interest rate reflects a higher level of credit risk of the borrower.

Since the new scale of risk ratios applies to loans issued after 1 May 2018 and also given that the portfolio of unsecured consumer loans is renewed on average in 1.5–2 years, the effect of these measures will be spread out over time. As of the end of 2018, the impact of these measures on the capital adequacy requirements of retail banks will amount to 0.6–0.7 p.p., and for banks with diversified credit policy, 0.1 p.p.

In the segment of mortgage housing lending, the growth rates of loan debt remain at a consistently high level (the annual growth rate of loan debt amounts to 19%). The growth of lending is due both to a revision by banks of the level of interest rates on loans and to reduced requirements for the initial contribution of borrowers. Analysis of historical data shows that mortgage loans with a small down payment are generally characterised by a higher level of borrower credit risks. The share of such loans in the portfolios of the banks is still insignificant. However, to prevent future accumulation of risks and for the sustainable development of the mortgage segment, the Bank of Russia decided to apply a 150% risk ratio to mortgage loans in rubles with a down payment less than 20% issued after 1 January 2018, regardless of the amount of the loan, and to increase the risk ratio from 150% to 300% for mortgage loans in rubles issued after 1 January 2018 with a down payment less than 10%. A 150% risk ratio was also established for loans issued after 1 January 2018 for financing under a construction equity participation agreement where the borrower's down payment made with its own funds was less than 20%. Raising the risk ratios for individual exposures increases the bank's capital stock to cover possible losses.

[5] *According to the reporting form 0 409 126 'Data on the weighted average values of the full loan value of consumer loans.'*

5.2. The Bank of Russia's Measures to Reduce Foreign Currency Predominance in Banks' Exposures to the Corporate Sector

In the analysed period, there was a slowdown in the trend towards reducing the share of foreign currencies in bank loan portfolios. The Bank of Russia views the active accumulation of foreign currency debts, including by exporting companies, as a potential risk to the stability of the financial system. In this regard, the Bank of Russia decided to further increase the risk ratios on claims against legal entities in foreign currency and to establish increased risk ratios for claims against exporting companies.

For emerging markets and in general for countries with non-reserve currencies, the limitation of foreign currency risks for the financial system and the economy remains a topical issue. The high share of foreign currency on the balance sheets of banks in 2014 led to the materialisation of the following systemic risks as a result of the weakening of the ruble:

– The level of bad loans for foreign currency loans to borrowers that did not have export foreign exchange proceeds increased sharply (primarily in the real estate and construction sector).

– Credit institutions faced faster growth of assets relative to capital (mostly denominated in rubles), which required the easing of regulatory requirements in the form of the use of special exchange rates in the calculation of ratios.

'Natural hedging' is typical for exporting companies, but at a time of stress they experience difficulties in refinancing the foreign currency debt. This occurred not only in 2014 when certain countries imposed restrictions on lending to Russian companies but also during the crisis of 2008–2009 (then the Government of the Russian Federation implemented a special programme for the refinancing of the foreign debt through Vnesheconombank).

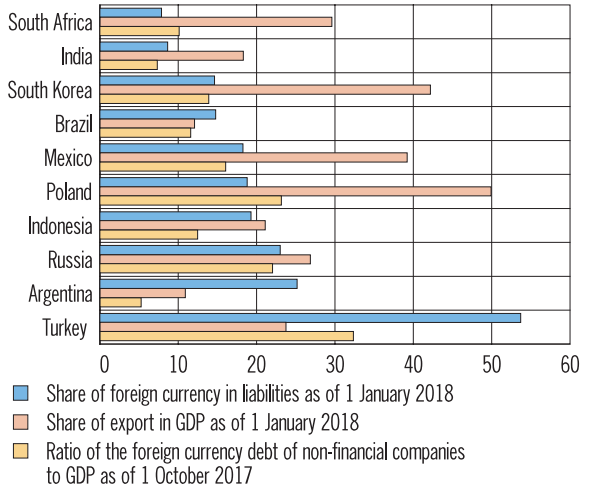
The problem is that the incentives for companies to take on currency risks are usually correlated with the business cycle, and, in the case of countries specialising in the export of raw materials, also with the commodity cycle. When commodity prices increase, borrowers have greater incentives to attract foreign currency loans. They underestimate the risks of such loans and do not realise that the difference in interest rates on loans in national and foreign currency also reflects the currency risk. In the event of a slowdown in the economy, including a drop in oil prices, the situation starts to unwind in the opposite direction, and the accumulated increased foreign exchange debt burden becomes a problem for financial stability, leading to a deepening economic recession, prolonged economic stagnation, and, overall, to a longer period of low rates of economic growth[6].

Compared to other countries, the foreign exchange debt of the corporate sector is higher in Russia. Russia is among the countries with the highest 'foreign currency debt of non-financial companies/GDP' ratio (22%). Also, Russia has a high level of dollarization of banks' liabilities (23%), significantly exceeding countries with a comparable and even higher level of openness of the economy (the share of exports in GDP).

To reduce the share of foreign currency in bank assets, in the spring of 2016, the Bank of Russia introduced increased risk ratios for foreign

Figure 55

Level of foreign currency predominance in EMEs (%)



[6] *Detailed information is available in the analytical note of the Financial Stability Department 'The Role of Macroprudential Policy in the Context of the Correlation of Commodity Cycles with Capital Flows and the Financial Cycle' (August 2017) on the website of the Bank of Russia in the section 'Research/Analytical Notes.'*

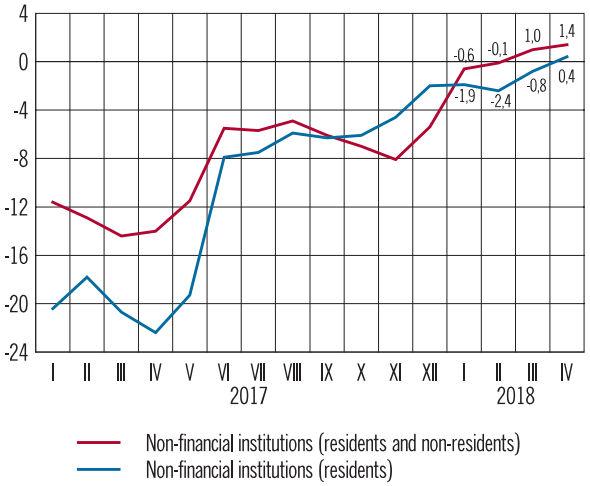
currency claims against borrowers that do not have sufficient export earnings to pay off their debts. This measure, as well as the fact that many banks began to increase the share of ruble loans to borrowers from non-tradable sectors against the backdrop of slowing inflation and lower ruble interest rates, led to a reduction in foreign currency debt in the main problem sectors. However, since November 2017, the rate of reduction of the share of foreign currency in loans has slowed significantly. This was due to both one-off loans to non-resident companies in late 2017 and a general slowdown in the process of reduction of the share of foreign currency in loans to resident companies. As a result, by the beginning of Q2 2018, the portfolio amounted to almost 8.7 trillion rubles ($ 151.5 billion), an increase of 1.4% over the year[7] (Figure 56).

Banks' investments in the debt of companies[8] denominated in foreign currency amount to 1.5 trillion rubles ($ 26.9 billion). In contrast to bank loans, the portfolio of investments in debt instruments is tending to decline: the annual rate of decrease as of 1 April 2018 amounted to 4.5% (1.6% as of 1 January 2018).

Annual growth rates in the portfolio of foreign currency loans to resident companies also entered the positive zone starting in April (0.4% as of 1 April 2018 against –0.8% as of 1 March 2018). There was a decrease for the most problematic lines of business – in construction and operations with real estate9 (Figure 57).

Figure 56

Annual growth rates of claims in foreign currency (%)



The volume of the portfolio of foreign currency loans to construction and development companies declined over the last 12 months (from 1 April 2017 to 1 April 2018) by $ 3.9 billion (–17.1%). In late 2014 – early 2015, the activities of construction and development companies were strongly affected by volatility in the foreign exchange market, and the vast majority of contracts with tenants was converted to ruble lease rates. Foreign currency loans to borrowers from these sectors that do not have sufficient volume of foreign exchange proceeds are characterised by increased risks.

The oil and gas industry showed the greatest increase in foreign currency lending within the tradable sector. Over 12 months, the portfolio of foreign currency loans to companies producing coke and petroleum products increased by 35.5% (+$ 3 billion), and, in sales of solid, liquid and gaseous fuels, by 36.4% (+$ 1.6 billion). Foreign currency claims against borrowers from these sectors are mostly exempted from increased risk ratios when calculating capital adequacy requirements (a risk ratio of 100% applies subject to a number of conditions on the adequacy of foreign exchange proceeds to cover payments in foreign currency[10]).

Among all sectors, the highest level of foreign currency debt is also observed in the oil and gas industry: the indicator 'currency debt/GDP' calculated for the six largest borrowing companies[11] amounts to 8.5% (Figure 58). For comparison: the public external debt of the Russian Federation as of 1 January 2018 amounts to 3.1% of GDP. Thus, the debt of the largest borrowers from the oil and gas sector is 2.7 times greater than the sovereign external debt, and it shows a tendency to grow: for 2017 the growth of foreign currency debt of these companies amounted to $ 2.3 billion US dollars.

[7] With the exception of foreign exchange revaluation. For credit institutions operating as of the last reporting date, including previously reorganised banks.

[8] The section 'Other Debt Obligations' of the Survey of the Banking Sector of the Russian Federation, No. 187 (data as of 1 April 2018).

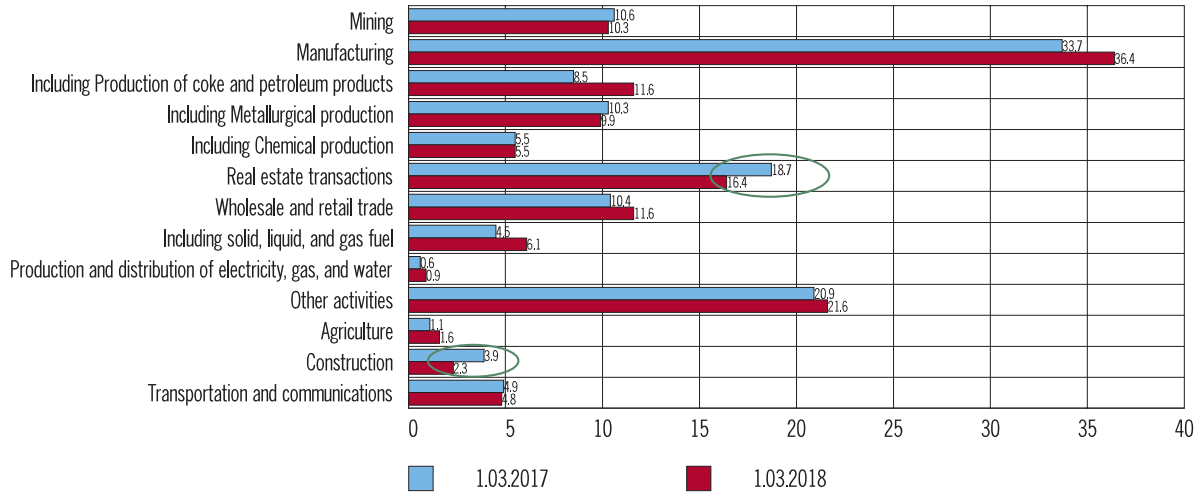
[9] Sectoral analysis is carried out based on the data of form 0 409 303 as of 1 April 2018.

[10] Revenue in foreign currency for the last completed financial year is simultaneously not less than 60% of total revenue and not less than 120% of the total loan payments for the current calendar year in the same foreign currency as the revenue.

[11] On a consolidated basis in accordance with IFRS.

Figure 57

Change in foreign currency debt by industries (USD billion)

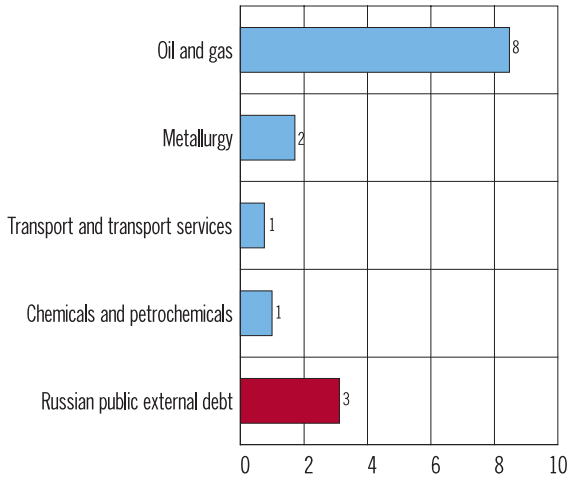


Against the backdrop of the resumption of growth in foreign currency lending in Russia and the expected strengthening of the currency risks of emerging markets, the Bank of Russia decided to revise the risk ratios for legal entities in foreign currency when calculating capital adequacy requirements. Risk ratios for exposures (and investments in debt securities) to resident legal entities that act as exporters[12] are increasing from 100% to 110%. To stimulate the further reduction of the riskiest foreign currency loans – that is, loans for the acquisition of real estate, the Bank of Russia adopted a decision to increase the applicable risk ratios from 130% to 150%. All other claims against legal entities in foreign currency will be weighted at a risk ratio of 130% (the current ratio is 110%). The increase in risk ratios does not apply to exposures and investments in securities for which there is a direct or indirect guarantee of the Russian Federation.

It is assumed that these changes will apply to newly issued loans after 1 July 2018, making it possible to distribute the pressure on bank capital over time. In the future, if risks of the dollarization of banking assets and liabilities increase, the Bank of Russia may take additional measures.

Figure 58

Foreign currency debt of the largest public companies to GDP (%)



Source: consolidated financial statements, Ministry of Finance..

5.3. Improvement of the Bank of Russia's Macroprudential Policy

Development of the Legislative Framework of Macroprudential Regulation

In March 2018, Federal Law of the Russian Federation No. 53FZ, dated 7 March 2018, 'On Amending Certain Legislative Acts of the Russian Federation,' which amends Article 452 of Federal Law No. 86FZ 10, dated July 2002, 'On the Central Bank of the Russian Federation (the Bank of Russia) ' (the 'Law on the Bank of Russia'), came into force;

[12] *The criteria by which a company is categorised as an exporter remain unchanged (see footnote 10).*

these amendments concern the application by the Bank of Russia of buffers to risk ratios for certain types of assets as a measure to reduce threats to the financial stability of the Russian Federation.

In particular, the Bank of Russia is entitled to establish – pursuant to the decision of the Board of Directors of the Bank of Russia – buffers to risk ratios for certain types of assets that are taken into account when calculating capital adequacy requirements for credit institutions. The types of assets for which buffers to risk ratios may be established and the characteristics of these types of assets will be defined in a Bank of Russia regulation. Buffers to risk ratios for a particular type of asset may be differentiated depending on the values of the characteristics of this type of assets, which the Bank of Russia may also establish on the basis of a decision of the Bank of Russia Board of Directors. Information on the amounts of the buffers to risk ratios set by the Bank of Russia Board of Directors and the values of the characteristics of asset types will be published on the official website of the Bank of Russia.

A New Mechanism for Establishing Increased Sectoral Capital Requirements for Banks

The Bank of Russia has fairly long experience in applying higher risk ratios to individual assets when calculating capital adequacy requirements for banks for macroprudential purposes (see the Financial Stability Review for Q2 – Q3 of 2016[13]), but previously changes were made to the applicable prudential regulation (Bank of Russia Instruction No. 180I, dated 28 June 2017, 'On Required Ratios for Banks' ('Bank of Russia Instruction No. 180I'). As part of implementation of the new approach, on April 13, the Bank of Russia published a draft of the Bank of Russia Ordinance on the Bank of Russia website for public discussion[14].

The new mechanism for establishing increased sectoral capital requirements in the form of buffers to risk ratios should help to improve the effectiveness of the macroprudential policy of the Bank of Russia. First, the establishment of buffers based on the decision of the Board of Directors without amending Bank of Russia regulations will increase the speed of decision-making on the application of macroprudential measures. Second, buffers to risk ratios can be modified both upward and downward, which will provide the ability to quickly soften the requirements in case of stress. Third, the differentiation of buffers to risk ratios depending on the changes in the values of risk ratios corresponds to the targeted nature of macroprudential measures.

In order to develop the norms of article 452 of the Law on the Bank of Russia, a draft Bank of Russia regulation has been prepared that defines the following types of assets for which buffers to risk ratios may be established:

- Unsecured consumer loans
- Car loans
- Consumer loans for the acquisition of a residential property secured by the pledge of the property (mortgage)
- Consumer loans for financing under an equity participation agreement
- Loans to legal entities for acquiring or financing the construction of income-producing real estate
- Exposures denominated in foreign currency, including the above exposures in foreign currency

Based on the decision of the Bank of Russia Board of Directors, the following characteristics of the types of assets will be set:

- The debt burden ratio (payment to income, PTI) for consumer loans defined as the ratio of the amount of average monthly payments for all consumer loans of the borrower to the average monthly income of the borrower
- The effective interest rate of a consumer loan calculated in accordance with the procedure established by Federal Law No. 353FZ, dated 21 December 2013, 'On Consumer Loans'
- Ratio of the amount of the principal debt under a consumer loan for the acquisition of a residential property secured by the pledge of the residential property (mortgage) to the fair value of the collateral

The values of other characteristics of asset types are defined in the draft Bank of Russia regulation, taking into account the breakdown of asset codes which, in accordance with Bank of Russia Instruction No. 180I, dated 28 June

[13] *http://cbr.ru/publ/Stability/fin-stab-2016_2-3r.pdf.*

[14] *http://cbr.ru/StaticHtml/File/41 186/180 413-35_1.pdf.*

2017, 'On Required Ratios of Banks' ('Bank of Russia Instruction No. 180'), are currently subject to increased risk ratios. It is assumed that, for certain types of assets for which buffers can be applied to risk ratios in the framework of the new regulatory mechanism, the risk ratios in Bank of Russia Instruction No. 180I will be reduced to the standard value (100%, except for assets with lower risk ratios).

The draft Bank of Russia regulation will be applied to all operating credit institutions.

Requirements for the Calculation of the PTI for Consumer Loans

In accordance with the published draft Bank of Russia regulation, buffers to risk ratios for consumer loans may differ depending on the value of the borrower's PTI. The use of the PTI in setting the buffers to the risk ratios will allow for a more direct influence on the credit policy of banks, limiting the growth of lending to borrowers with a high debt burden, which will help to reduce the risks of the banking sector and, at the same time, restrain the growth of the debt loan of the population.

To determine capital adequacy, banks will have to calculate the PTI for all consumer loans with a principal amount of over 10,000 rubles when deciding on their issue and when establishing or increasing the limit on consumer loans issued using bank cards. Given that at present the banks approach the assessment of the debt burden of a borrower when making lending decisions in various ways, the introduction of this requirement will be deferred: according to plans, the calculation of the PTI ratio for banks will become mandatory after 1 January 2019.

In order to unify the calculation of the PTI ratio, the draft Bank of Russia regulation establishes the requirements for the calculation of this indicator, while the banks independently determine the methodology for calculating the debt burden ratio to the extent consistent with the established requirements. The drafting of the document took into account the current practice of assessment of the borrower's debt burden by the banks and the availability and quality of the information used, including the information on household loans stored in credit history bureaus.

In accordance with the requirements for the calculation of the PTI ratio, banks will have to determine the amount of average monthly payments for all consumer loans and borrowings of the borrower, including under contracts concluded by the borrower with other creditors. To this end, banks should use the information contained in the credit report provided by a credit history bureau at the request of the bank in accordance with the requirements and provisions of Federal Law No.218 FZ, dated 30 December 2004, 'On Credit Histories.' In October 2017, the advisory report 'On the Development of the Market for CHB Services,' which presents several options for determining the total debt obligations of a borrower, was published on the official website of the Bank of Russia. Currently, consultations with financial institutions on the preferred variant of the scheme are underway.

The formula involves the inclusion of the amount of overdue debt of the borrower in the amount of the average monthly payment. This approach is aimed at limiting the provision of loans to high-risk borrowers who already have payment defaults on other loans. It was the provision of such loans that caused the crisis in the US mortgage market in 2007.

In accordance with the draft Bank of Russia regulation, banks, in determining the average monthly income of the borrower, should primarily use confirmed income. The draft proposes a wide range of documents for confirming income.

If the borrower indicated a certain income in the loan application, and there is no proof of income, the bank must use the smallest of the following values when calculating the PTI: the borrower's declared income and the average per capita income in the region of borrower's location published on the official website of the Federal State Statistics Service.

In order to exclude regulatory arbitrage, the requirement for the calculation of the debt burden ratio when making a decision on lending will be established for microfinance organisations taking into account the specifics of their activities.

APPENDICES

Appendix 1. Summary of Current Foreign Macroprudential Policies

1. Requirements for the Countercyclical Capital Buffer (CCyB)

- In December 2017, the Bank of England announced its decision to raise the amount of the countercyclical capital buffer (CCyB) from 0.5% to 1% starting 28 November 2018. The decision was due to the high likelihood of various risks arising from the UK's exit from the EU and the growth of consumer lending.
- In January 2018, the Hong Kong Monetary Authority announced an increase in the amount of the CCyB from 1.875% to 2.5% of the RWA starting 1 January 2019. This decision was due to the fact that the credit gap indicator (credit/GDP gap) exceeded 19% as well as for the purpose of maintaining an increased ratio of property prices and rental. The Hong Kong Monetary Authority emphasises that systemic risks have not decreased.
- In March 2018, the Danish System Risk Council decided to increase the size of the CCyB from 0% to 0.5% starting 31 March 2019. The decision is due to the acceleration of lending growth rates.
- In December 2017, the Central Bank of Lithuania decided to increase the size of the CCyB from 0% to 0.5% starting 31 December 2018 to prevent excessive lending growth. In Q3 2017, the portfolio of loans to the private non-financial sector continued to grow (in September 2017, 6.3%); however, the situation in individual segments was heterogeneous. The growth of the portfolio of housing loans accelerated to 8.2%.
- In December 2017, according to the results of stress testing, the National Bank of the Czech Republic decided to increase the size of the CCyB from 1.0% to 1.25% of RWA starting 1 January 2019. The decision to increase the buffer is due to the rapid growth of bank lending, especially household lending.

2. Systemic Risk Buffer (SRB)

- Starting 1 January 2018, the Austrian Financial Market Authority introduced a systemic risk buffer (SRB) for 13 national systemically important financial institutions. The SRB is to be increased annually. Starting 1 January 2020, its value will be from 1% to 2%. The highest value (2%) will be applied to Erste Group Bank AG, Raiffeisen Bank Austria AG, and Unicredit Bank Austria AG.
- Starting 1 January 2018, the National Bank of Belgium introduced an SRB in the amount of 0.75% to 1.5% for eight national systemically important financial institutions. The maximum value applies to four banks: BNP Paribas Fortis SA/NV, KBC Group KBC Bank NV, Belfius Banque SA/NV, and ING Belgium NV.
- In December 2017, the Bulgarian National Bank announced the need to introduce additional capital buffers for 11 systemically important banks. Starting 1 January 2018, the buffer amounted to 0.125% to 0.5% of the RWA, in particular, 0.5% for UniCredit Bulbank and First Investment Bank and 0.25% for DSK Bank, Société Générale, and KBC.
- In December 2017, the Hungarian National Bank confirmed its intention to gradually increase capital requirements for systemically important banks over the next four years. The gradual tightening of capital requirements will ensure a balance between ensuring financial stability and supporting lending. The size of the SRB for certain systemically important banks was set in the range of 0.125% – 0.5% of RWA in 2017 and will be raised to 0.5% – 2.0% of RWA in 2020.
- In December 2017, the UK's Prudential Regulation Authority announced the introduction of an SRB for four national systemically important financial institutions starting 1 January

2019: HSBC = 2%; Barclays = 1.5%; Standard Chartered and RBS = 1%.

- In December 2017, the Federal Financial Supervisory Authority of Germany (BaFIN) decided to increase the size of the SRB for 13 national systemically important financial institutions starting 1 January 2018. The SRB is to be increased annually. Starting 1 January 2019, its value will be from 0.5% to 2%. The highest value (2%) will be applied to Deutsche Bank AG.
- In December 2017, the Central Bank of Italy announced the introduction starting 1 January 2019 of an SRB for Unicredit Group in the amount of 1%.
- Starting 1 January 2018, the Financial Market Authority of Liechtenstein introduced an SRB of 2.5% of RWA for three national systemically important financial institutions (LTG Group Foundation, LLB Group and Leichtensteinische Landesbank AG, and VP Bank Group and VP Bank AG).
- In December 2017, the Bank of Slovenia announced the introduction starting 1 January 2019 of an SRB for seven national systemically important banks: NLB = 1%; SID, NKBM, Unicredit, Abanka, SKB, and Sberbank = 0.25%.
- Starting 11 January 2018, the People's Bank of Croatia has introduced an SRB for eight national systemically important banks. Its value is from 0.2% to 2%.
- In late November 2017, the Swedish Financial Supervisory Authority (Finansinspektionen) announced the introduction of a 1% SRB for the global and national systemically important bank Nordea Bank AB. The SRB is to be introduced gradually: starting 1 January 2018, 0.75%; and starting 1 January 2019, 1%.

3. Requirements for Liquidity Indicators

- China Banking Regulatory Commission (CBRC) has published a revised draft of requirements for banks regarding the management of liquidity risk, which entered into force on 1 March 2018. The document introduced three quantitative indicators of liquidity: the net stable financing ratio (NSFR), the high-quality liquid assets adequacy ratio, and the liquidity matching ratio (LMR). CBRC set the minimum values for all three factors at a rate of 100%. The requirements for NSFR and HQLA ratios have been introduced only for large commercial banks with assets over CNY 200 billion ($ 30.24 billion), while the minimum allowable level of LMR will apply to all banks. The LMR ratio is calculated as the ratio of the weighted amount of borrowed funds (with different maturities: up to 3 months, from 3 to 12 months, over 12 months) to the weighted amount of assets (with different maturities).

4. Requirements for the Leverage Ratio

In January 2018, the Central Bank of the Philippines introduced requirements for a minimum level of the leverage ratio of 5% for universal commercial banks, their branches, and so-called quasi-banks starting 1 July 2018.

5. The Maximum Acceptable Loan-to-Value Ratio (LTV)

- In December 2017, the Reserve Bank of New Zealand announced a softening of the requirements for the ratio of the amount of a mortgage loan to the value of the acquired property due to the lowering of risks in the residential real estate market as a result of the toughening of requirements adopted in October 2016. In particular:
  - the maximum allowable share of new issued mortgage loans with an LTV of more than 80% has been increased from 10% to 15%.
  - The LTV ratio was increased from 60% to 65% for investment mortgage loans (their share remains limited to 5% of all new loans issued).
- In February 2018, the Bank of Portugal announced the imposition of restrictions on new loans for the acquisition of residential real estate secured by a mortgage loan or equivalent guarantee issued after 1 July 2018. The requirements apply to all financial institutions that have the right to issue loans. The following maximum levels of LTV were established:
  - 90% on loans for one's own permanent residence
  - 80% on loans for purposes other than one's own permanent residence

- The Finnish Financial Supervisory Authority decided to limit the maximum loan-to-collateral (LTC) ratio as of 1 July 2018 to 85% (previously it was set at 90%). The decision was made because household debt in Finland has reached a high level and continues to grow. The Financial Supervisory Authority considers this to be the most significant factor in the vulnerability of Finland's financial system; the European Systemic Risk Board and the IMF issued the same warning.

6. The Maximum Allowable Level of Debt Burden of the Borrower (Debt-to-Income, DTI, Debt-Service-to-Income, DSTI, Loan-to-Income, LTI, Payment-to-Income, PTI)

- In February 2018, the Bank of Portugal announced the imposition of DSTI restrictions on new loans for the acquisition of residential real estate secured by a mortgage loan or equivalent guarantee for loans issued after 1 July 2018. In particular, the DSTI indicator will be ≤50%, while the following exceptions exist for the total number of loans issued by each institution annually:
  - up to 20% of the total number of loans: DSTI = ≤ 60%
  - up to 5% of the total number of loans: there is no DSTI limit.

7. Other Measures

- In February 2018, the National Bank of Belgium (NBB) announced additional requirements for the capital of banks aimed at containing macroprudential risks. These measures are designed to increase the resilience of Belgian banks to potential significant negative adjustments in residential real estate markets. In accordance with the NBB's announcement, there are plans to introduce the following in Belgium:
  - A buffer of 5 p.p. to microprudential risk ratios for mortgage loans for all banks that apply an internal ratings-based approach to assessing capital adequacy (IRB approach)
  - An additional macroprudential buffer of 33% to the risk ratios for mortgage loan portfolios of residential real estate for banks that use the IRB approach
- In late November 2017, the British government announced the introduction of a number of measures in the residential and commercial real estate market. In particular, the state registration fee will be abolished for the acquisition of one's first home worth up to £300,000 in the 2018 fiscal year (homeowners will save about £1,500). When purchasing a property worth between £300,000 and £500,000, the owners will receive a discount on the payment of the fee of about £5,000 due to the reduction of the state fee from 10% to 5%. For housing worth more than £500,000, the state fee will remain the same: at a cost of £500,000 to £1,500,000 = 10%, over £1,500,000 = 12%. The government expects that about 1 million customers will take advantage of this measure over the next five years. In addition to reducing the registration fee for real estate, the government plans to impose a tax on foreign investors which will be paid from the increase in the value of commercial real estate when it is sold. The new taxation rules will apply to real estate acquired after April 2019, at a rate of 20% for individuals and 19% for corporations (17% starting April 2020).
- The Financial Supervisory Authority of Finland introduced a minimum average risk level of 15% for a portfolio of mortgage loans secured by the pledge of real estate in Finland starting 1 January 2018 for banks using the IRB approach (OP Group, Danske Bank Plc, Nordea Mortgage Bank Plc, Aktia Bank Plc, and Bank of Aland Plc). The Financial Supervisory Authority of Finland indicated that it expects similar measures from the supervisory authorities of other countries. For example, the Swedish Financial Supervisory Authority has recognised the decision of the Finnish regulator and will apply similar requirements to supervised banks using the IRB approach, taking into account the criterion of the materiality of the portfolio (more than € 1 billion). Thus, the requirement will apply to Nordea Bank AB, Handelsbanken AB, and Stadshypotek AB. The European Commission considered this action an effective measure for ensuring the sustainability of the financial system.

Appendix 2. International Practices of Applying Countercyclical Mechanisms for Insurance Companies

Mechanisms of countercyclical regulation for insurance companies are designed to reduce the general exposure of insurance companies to the risk of a sudden collapse in asset prices and prevent the generation of procyclical effects, such as massive sales of assets in times of crisis.

The behaviour of insurers during a shock period depends on their business models. Organisations that offer insurance other than life insurance constantly maintain a significant level of liquidity, since losses can arise from the moment of conclusion of the contract. In life insurance, contracts are traditionally long-term, and the calculation of insurance rates relies on what are historically the most elaborate statistics among all types of insurance. Consequently, the need for liquidity is more easily assessed, which allows life insurers to invest in less liquid assets and keep them in their portfolio for a long period of time. During an economic downturn, the influx of insurance premiums allows life insurers to continue investing, while other market participants sell assets. Thus, life insurers that invest in long-term assets to secure long-term insurance contracts tend to behave countercyclically during a shock period, exercising a stabilising effect on the financial market.

The need for insurance companies to use countercyclical mechanisms also depends on the approach to asset valuation. One may distinguish the following global approaches:

- Valuation at amortised cost (USA, Japan)
- Valuation at market value (EU)

When valuation at amortised cost is applied, the calculation is based on the expected interest rate (does not reflect changes in market rates) at the time of the signing of the contract. It is rarely revised; therefore, capital can remain stable (in the short term and to the extent that these assets are valued at amortised cost). In addition, in the US, life insurers have the right to value securities at historic cost, so during the crisis they tend to hold speculative securities in order not to recognise a loss and then sell the assets with maximum profit. Thus, a countercyclical effect is achieved – insurance companies do not participate in mass sales of assets.

In 2000, Japan set apart a special type of bonds – policy-reserve-matching bonds – as one of the accounting groups of securities characteristic for organisations that offer life insurance. These are bonds with a fixed interest rate used for the purpose of comparing the maturities of assets and liabilities. In particular, these bonds are valued at amortised cost and therefore do not reflect fluctuations in interest rates. This measure reduces the volatility of solvency indicators of insurance companies and simplifies the management of long-term securities. Since this type of securities represents the majority of investments in Japanese government bonds, it is assumed that they should not be sold even during a period of interest rate growth.

At the same time, if assets are valued at amortised cost, the solvency indicator of a company may be highly distorted, since risks will not be reflected on the balance sheet in a timely manner. Life insurers have the possibility of not reflecting their losses from assets in the balance sheet for a long time and then participating in speculative transactions with these assets, which increases the losses of policyholders in the case of an unfavourable outcome.

The second approach, based on asset valuation at market value, was implemented under the Solvency II[1] regime introduced in the European Union. Valuation of assets based on market value makes it possible to solve the problem of the transfer of risks to policyholders. This approach can be assessed as more perfect because as a whole it better reflects the risks of insurance companies and is more transparent. Future cash flows under insurance liabilities are discounted using a risk-free interest rate in accordance with market data. At the same time, the present value of liabilities is sensitive to changes in the interest rate, and the value of assets is exposed to the risk of spread volatility. However, this approach does not exclude the procyclical behaviour of investors, namely, mass sales of assets during crisis periods and an increase in price growth rates during the formation of bubbles in the asset market.

[1] *Directive 2009/138/EC of the European Parliament and of the Council of 25 November 2009 on the taking-up and pursuit of the business of insurance and reinsurance.*

In order to reduce the impact of these effects, the European Insurance and Occupational Pensions Authority (EIOPA) has developed a package of measures aimed at maintaining the solvency of insurance companies (long-term guarantees, LTGs), which includes the following countercyclical mechanisms:

- Symmetric adjustment of the equity capital charge
- Volatility adjustment (VA)
- Matching adjustment (MA)
- Extension to the recovery period

A symmetric adjustment is applied to cover the risk arising from fluctuations in share prices and is included in the calculation of the Solvency Capital Requirement Ratio (SCR ratio). The adjustment is based on the function of the current level of the share index and the weighted average of this index. The value of the symmetric adjustment should not exceed ± 10%. The stock index for the symmetric adjustment must meet the following requirements:

- The index measures the market price of a diversified portfolio reflecting the typical structure of investments of insurance and reinsurance companies.
- The level of the index is published in the public domain.
- The frequency of publication of the stock index is sufficient to determine the current level of the index and its average value over the past 36 months.
- The level of the index is determined for each working day as the sum of the normalised levels of stock indexes (including weights) for a given working day.

The index is made up of 11 indices of the national markets of France, Germany, Italy, the Netherlands, Poland, Spain, Sweden, the United Kingdom, Japan, Switzerland, and the USA.

The adjustment is symmetric – that is, its value will be positive (capital requirements above the average) during a period of market growth and negative (capital requirements below the average) in a period of market contraction.

Extension of the recovery period. Organisations that do not meet the capital requirement are granted a six-month recovery period to ensure solvency. In the case of non-compliance with the requirement due to a sharp fall in the financial markets, an extension of the recovery period may be provided to prevent procyclical effects, in particular, 'hot sales' of assets in an unstable market. The extension of the recovery period should not exceed seven years. At the same time, during this period, it is necessary to draw up and implement a recovery plan.

The volatility adjustment and the matching adjustment are used to calculate the risk-free interest rate in order to determine the best estimate of the liabilities of the insurance company. Their action is aimed at reducing the volatility of the balance sheets of insurance companies and preventing mass sales of assets. Also, adjustments lead to an increase in the capital requirement to ensure solvency and to release additional free funds that the company can use for its own development. However, the simultaneous use of two adjustments is prohibited.

The volatility adjustment is calculated and published by the regulator; it can be different for each currency or country. The adjustment can be applied by companies that offer both life insurance and insurance other than life insurance.

Unlike the volatility adjustment, the matching adjustment can only be applied under certain conditions – namely, when liabilities and assets have similar cash flow characteristics: the expected cash flows for liabilities must match the expected flows for assets covering those liabilities, cash flows for assets are predictable and correspond to the currency of the liabilities, and the use of the adjustment is agreed on with the regulator. The matching adjustment places great restrictions on the insurance company's investment portfolio; it is especially important for insurance companies offering life insurance since they are characterised by long maturities (it can also be applied by companies that offer insurance other than life insurance). The companies must calculate the matching adjustment independently.

According to EIOPA, the value of the Solvency Capital Requirement Ratio in the case of application of measures in respect of long-term guarantees and without them varies in different jurisdictions, but in some countries compliance with the Solvency Capital Requirement Ratio (SCR ratio>100%) is achieved only through the use of these measures. The impact of volatility and matching adjustments

Table 2

The effect of the adjustment of volatility and the matching adjustment on the indicators of insurance companies of the European Economic Area (EEA), 2017

Indicator	Matching adjustment	Volatility adjustment
Number of institutions applying the instrument	38	730
Number of institutions applying the instrument	38	730
Impact on the value of the capital requirement to ensure solvency of the SCR ratio, average across the entire EEA market	Increase by 18%	Increase by 13%
Insurance reserves for non-application of adjustment for institutions using the adjustment	Increase by 4.1%	Increase by 0.6%
Own funds for non-application of adjustment for institutions using the adjustment	Decrease by 37.4%	Decrease by 2.9%

** Report on long-term guarantees measures and measures on equity risk, EIOPA, 2017.*

on various indicators of insurance companies is presented in Table 2.

According to data for 2017, 783 organisations in 23 countries used at least one of the LTG measures. 730 insurance companies applied the volatility adjustment (276 life insurers, 236 insurers that offer insurance other than life insurance, 192 companies that offer both types of insurance, and 26 reinsurers), and 38 companies from Spain and the United Kingdom used the matching adjustment (of which 22 were life insurers, and 16 were companies that offer both types of insurance).

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